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AN INVITATION TO YOU

The AMERICAN BUILDER cordially invites and urges you to enjoy the privileges and benefits of its Correspondence Department. Any phase of any building question may be profitably and instructively discussed in this department. If your problem is a knotty or technical one submit it to the Correspondence Department and secure the benefits of the opinions of other experienced builders. It's a "give" as well as a "take" department and you are asked to relate your achievements and tell how you have conquered difficulties as well as to ask for information and advice. Rough drawings are desired, for they make clear involved points. We will gladly work over the rough drawings to meet publication requirements. The Correspondence Department is your department. Use it freely and frequently.

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Contractors and
Dealers
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By specializing the Andersen Factory is able to make frames that are not only exact, but so simple that any carpenter can nail up the seven units complete with pockets and pulleys in place in ten minutes or less.

Write For Free Booklet

We will be glad to explain fully the different features listed on this page. Write and tell whether you are building your own home, or whether you are interested as an Architect, Contractor, Carpenter or Dealer.

Andersen Lumber Company

Dept. A-3

Bayport, Minnesota

(Formerly South Stillwater)

Andersen FRAMES

FRIENDLY CHATS *with the* EDITOR



Plan Ahead for Your 1923 Building Material

WITH this month the year formally enters the season of spring. Never before has there been a winter season so favorable to the builder. Projects begun earlier in the spring and carried on thru the summer found the winter season favorable instead of discouraging, and work on new buildings was begun in mid-winter that will tend to make them ready for occupancy by next fall. The rotation is a good one from the builder's standpoint, tho not altogether without its drawbacks.

The shortage of medium priced houses still continues. There is inadequate school accommodation everywhere. Industrial plants are undergoing and planning needed and long-delayed expansions. All this is favorable, but the drawings on building material resources of 1923 are going to be so much greater than in 1922 that the wise course for the architect and builder is to survey local stocks, so that when a contract is landed all will be favorable to proceeding with it without delay.

The ranks of skilled mechanics are being reduced faster than they are being replenished. Living costs still stand at 58% more than in 1914, a fact to bear in mind as making impossible any appreciable lowering of wages in 1923.

On the other hand there is easier money for the financing of building of every description. The advantages cannot be said to counterbalance the disadvantages in the building field at present, but AMERICAN BUILDER suggests that a survey of conditions in your local field is not only an obvious precaution, but if it is undertaken now will help to prevent your being caught short on materials later in the year.



American Builder Pages Sell Houses

HAVE you ever thought how AMERICAN BUILDER pictorial features help your business?

People have been taught to want and to buy things thru having those things pictured to them. The automobile industry is an excellent example of this. Never, in any industry, was a product pictured and made attractive to the reading public as have been automobiles. It used to be that, when a man had saved

a little money, the appeal of this automobile literature was irresistible; he went out and bought a car forthwith.

Now, however, this appeal is divided. The manufacturers of building material picture and describe their products attractively; the American public is being shown houses in every conceivable style and all in good taste to satisfy its natural home-hunger. "I like this plan—or this—or this" is the proper thing nowadays, just as it used to be only "I like this and that model car."

But we have no quarrel with the makers of automobiles. First the house, then the garage, and then the car that goes in the garage. It is a logical succession of events and the kind that helps both the building and the automobile industry.



Keep Posted on Your Local Building and Loan Associations

FROM now on you may expect renewed activity in connection with the Building and Loan Associations in your community. There has been a tendency on the part of architects and builders and building supply dealers generally to think of Building and Loan activities as a banker's job, and out of their range of operations. Many who ought to be most interested have only a hazy idea of how a Building and Loan Association functions and how it carries on the work locally; all this, in spite of the fact that they are thoroly "sold" on the idea. They have seen the results and they know a Building and Loan Association really does start, and keep on stimulating, building work—especially home building.

A Building and Loan Association is a voluntary association of people who agree to pay in a certain amount of money at intervals, to apply on a common fund which can be drawn on later, for building purposes. A member can draw out more than he pays in, if it is so voted by the other members; this is, of course, a loan, secured by the new property, and which is repaid over a stated interval.

Any architect, builder or building material dealer who co-operates with his local Building and Loan Association is bringing himself in touch with the real prospects and the best class of clients in his community.

"Personally Conducted" Cir-

WE have just completed a census of AMERICAN BUILDER readers in which a questionnaire was mailed direct to every subscriber. We requested certain information and asked each reader to sign the report and mail it back to us. These reports have now come in from every state in the Union and every province of Canada. A great majority of these reports are very complete, carefully filled out, showing a sincere interest on the part of AMERICAN BUILDER readers to assist the publishers in compiling reliable and authentic data pertaining to the building industry.

We know that many of our readers will be interested to learn some of the facts brought out in this nationwide investigation.

Two questions were asked AMERICAN BUILDER readers, the answers to which show very clearly the value subscribers are getting out of their investment in this publication. When \$2.00 is invested by a subscriber for twelve copies of a business periodical, he should be able to use that periodical in his business to earn for him many times the subscription price.

We wanted to learn at first hand from our subscribers just how they make use of the AMERICAN BUILDER.

WE asked them, first, "How many regularly read your copy of the AMERICAN BUILDER?" Answers were returned, stating all the way from ONE to TEN. The AVERAGE was 3.7 men of the building industry reported as regular readers of each copy of the AMERICAN BUILDER!

Surely this would indicate that our subscribers are keeping the book busy, and are permitting it to serve a, very large number whose names do not appear on our list of readers.

| | |
|--|---------|
| Circulation this issue, March, copies..... | 56,000 |
| Average number readers per copy..... | 3.7 |
| Readers | 207,200 |

THE second important question we asked our readers to bring out the facts regarding the use they make of their investment in the AMERICAN BUILDER was, "Do you use the AMERICAN BUILDER as a sales help to show your customers and prospects the latest ideas in building designs, material and equipment?"; and 73 per cent answered YES to this question!

REACHING HOME SEEKER AND PROSPEC-

TIVE BUILDING OWNER, the ultimate consumer, the man who pays the bills. Seventy-three per cent of our subscribers reporting state that they use the AMERICAN BUILDER as a sales help to show their customers and prospects the latest ideas in building designs, material and equipment. This "Personally Conducted" Circulation of the AMERICAN BUILDER is very important. It brings advertised goods to the attention of the owners just at the time buildings are being planned and the materials and equipment decided upon. In these conferences between prospective building owners and their professional advisers, the AMERICAN BUILDER is there as the third party. Seventy-three per cent of our readers state that they use the AMERICAN BUILDER as a sales help to show their customers and prospects the latest ideas in building designs, materials and equipment. They often leave the AMERICAN BUILDER with the prospect to look over and study. Invariably dealers place their copies of the AMERICAN BUILDER in their salesroom where they are well thumbed by customers.

The AMERICAN BUILDER reader is the connecting link between the manufacturer and the prospective new building owner. The latter may have received a favorable impression from advertising in general magazines and newspapers, but invariably he asks the opinion of his builder, who will either recommend or condemn. If the builder is not familiar with an article, he will recommend something else that he has used satisfactorily, or has become convinced of its value thru seeing it advertised consistently in his own business paper. He will not recommend anything he does not know. It is the Master Builder, the man on the job, who has the final deciding

word. A recommendation from him has more influence than a mail sack full of catalogs and circulars.

Also remember that in deciding upon a home the wife and family have as much to say as the head of the house. The pages of the AMERICAN BUILDER are used by the builder and dealer as a sales catalog to demonstrate to the prospect and his family that what he recommends is modern, desirable and practical.

The wealth of building information in the AMERICAN BUILDER has made it also a popular seller on news-

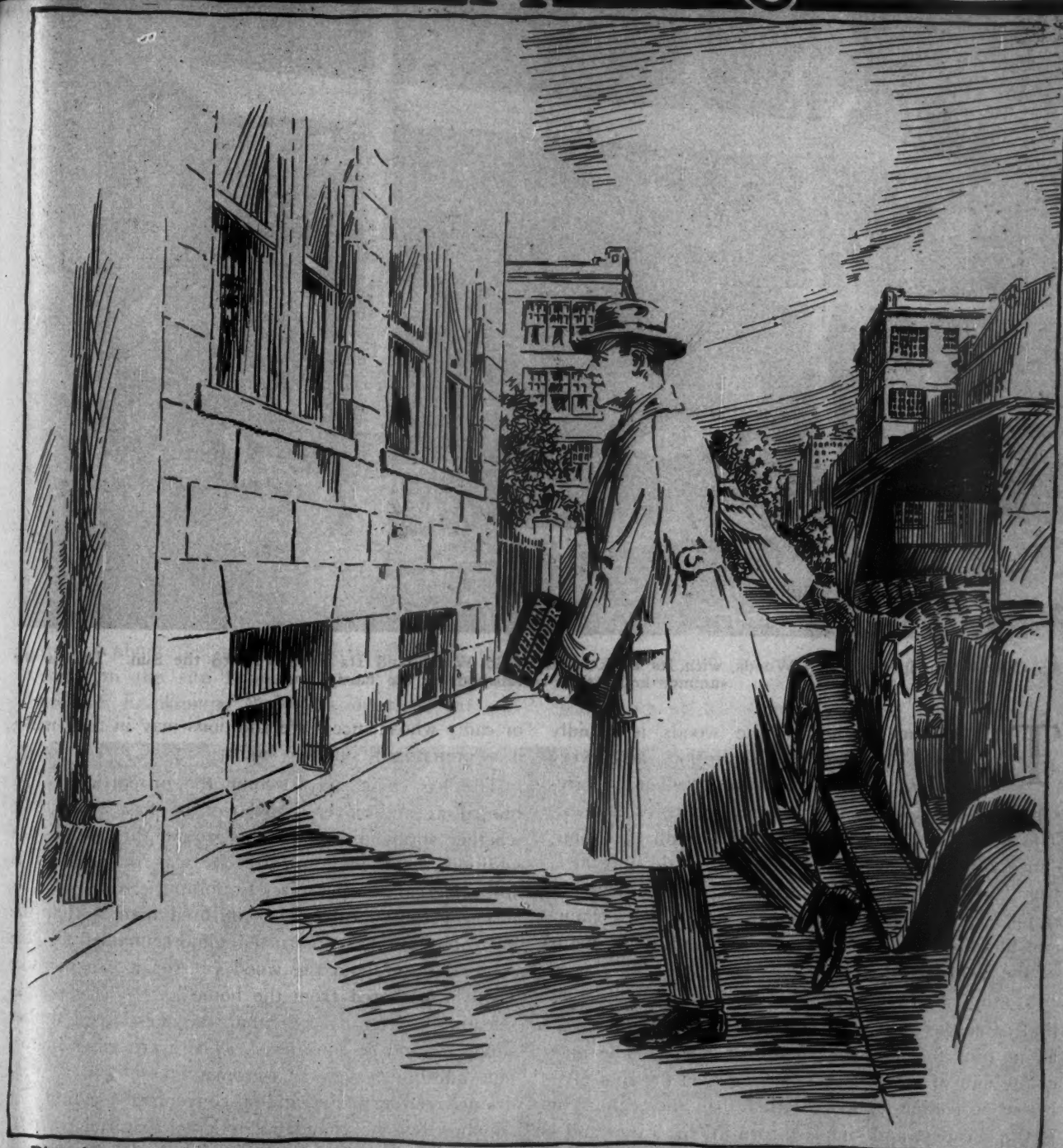
73% ~
Let's Make it
~100%

Seventy-three Per Cent of Our Readers State That They Are Using the AMERICAN BUILDER as a Sales Help in Calling on Their Prospects and Customers. If 73 per cent find AMERICAN BUILDER valuable to help sell the building idea and so create business, let's ALL use it that way.

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The Library binds this magazine
Selling the Building Idea
Please handle it with care.

Circulation to Home Seekers



Picturing the Active Builder and Home Planner About to Lay Before a Prospect Some Definite Building Ideas That Will Mean Breaking Ground for Another New Building. At these conferences where the details of the plan, materials and equipment are worked out, the **AMERICAN BUILDER** IS THERE. The good modern ideas contained in both Editorial and Advertising pages are incorporated in the building plans. Seventy-three per cent of our readers state that they are using the American Builder as a Sales Help.

stands—going to those about to build. The many designs of modern homes that appear in each number with complete floor plans and interior views, have caused it to be sought by those who are contemplating building and are in search of ideas. The magazine is taken home and all of those interested go thru it page by page, picking out the designs that appeal to them—

at the same time getting posted about the different kinds of building material and building equipment.

Thus the **AMERICAN BUILDER** reaches the "One time Buyers" of building materials and supplies, in addition to reaching the professional men of the building industry who are buying, specifying and building every day of the year.

The Log Camp

How to Plan and Build One

By GEORGE E. WALSH



An Open Camp in the North Woods, with Its Back to the Cold Winds and Its Face Toward the Sun. This is the summer home that is relished by the hardy ones.

THE summer camp in the woods is rapidly becoming an American institution, and every owner of an acre of wild woodland aspires some day to build thereon a cheap home for himself. The low cost of the land, combined with the abundance of timber, makes it possible to do this at a very small outlay. The evolution of the summer camp is generally from a tent to an open log camp, and then to a more pretentious closed camp with many of the comforts of a town home.

Tenting in the woods has so many discomforts that after the first or second season the camper looks about him for a more permanent home. The open camp built of rough logs felled right on the spot gives better protection in wet weather than the tent. This is the cheapest and simplest form of log camp and is built without regard to architectural beauty. It is little more than a series of posts set up, with a roof covered with bark stripped from the trees. The sides and front are more or less open, and protected in rainy weather only by the flap of a tent.

One gets comparative security from the bad weather in such a camp that is an improvement upon a tent and at the same time there is a maximum of fresh air always blowing thru it. But once built in the woods, it invariably develops into a genuine log cabin

or camp whose successive additions may in time make it a pretentious summer home.

The log cabin may assume the proportions of a bungalow, and never go above the first story; but whether sprawling out on the ground thru successive additions or growing upward to a two-story affair, it is still a log camp. It aspires to nothing else.

The great appeal to the city-bred man is that the log cabin can be constructed almost unaided by the owner himself, and the wood cut for it can in most cases be gathered from the home lot. Therefore, in selecting a site for a log cabin, the question of timber supply should be considered. There are other important questions, such as a romantic outlook, a well-drained sanitary site and a convenient location for supplies, but the abundance of good material for cutting in the vicinity should not be ignored. As the log camp is to be built of logs, a rough estimate of the number of suitable trees on the land should be made. Generally speaking, forty or fifty trees, five to six inches in diameter, will be required for each side of an ordinary cabin, and if it is to run up two stories, each one should be fifteen to twenty feet in length. Add to this number forty more for the roof and allow as many more for waste in cutting and splitting.

If there is a saw mill near, the trees can be split in half so that the supply of suitable timber is doubled. The split logs make operations easier, and save lumber, both together paying for the cost of mill work. Half or split logs can be put together with nails or spikes, while whole logs must be notched, which is not an easy job. Logs cut in the fall of the year, and left on the site until spring, are better than green ones just cut. If they are stacked in the woods so their butts do not touch the ground they will dry out without injuring the bark.

There are two general methods of building the log camp. One is to run the logs horizontal, and the other is to run them upright to the very roof. The horizontal method permits of a more finished exterior, but the upright logs are simpler to handle, and in some respects they shed the rain better. The water follows the natural course of the logs, and does not drive in the chinks so readily.

Doors, windows and roof must be planned for at the beginning, for the log cabin must have these just the same as a regular house, altho the open log camp does not require them. The window sash and doors are about the only thing that cannot be made directly on the site from trees cut in the woods. Therefore, in planning the camp, openings for win-



The Elaborate Type of Log Camp, Where Log Slabs Nailed to Ordinary Frame Construction Give the Appearance of the Genuine Log House.

dows and doors should be made to suit stock size. They are cheaper, and can be obtained on short notice.

The foundations of the cabin should be raised at least two feet from the ground. Two or three courses of the largest trees laid horizontal, and pinned at the ends, will make a suitable foundation for the floors and the walls. Where the logs are put on in the upright position, the butt ends may go clear down to the soil, but even so there should be a foundation of cross-laid logs inside for the floor support.

The easiest way to fasten the whole logs together, if one decides not to notch them at the corners or ends, is to use a bit and auger for boring holes, and then



Log House, Where Vertical and Horizontal Use of Logs Gives Good Effect.

whittle wooden pins of hard wood. Here and there iron spikes can be employed for making the work solid.

One begins with a square box for his camp, and then by successive stages adds wings, piazzas and other parts to it. If this is done with some idea of beauty the final result is pleasing. The roof can be finished off with bark slabs, shingles or smaller logs with the chinks patched up with mud or cement. This is all a matter of choice to suit one's pocket-book and inclination. The piazza is also subject to a great variety of treatments, from the simplest to the most elaborate,



The Perpendicular Use of Logs Rising Up Two Stories, and it can be added to from time to time as one has the inclination.

A log cabin or camp becomes in time a real summer home, and the interior is finished off to suit the taste. The building of it is a matter of individual pride, and the health one gets from the operation is of no inconsiderable importance.

Such a summer log camp can be constructed all the way from a few hundred dollars up to a thousand or more. Much depends upon the amount of work one can give to it, and the cost of extra labor required at different times. A chimney built of field stones will bring up the cost on account of the cement used, and perhaps a mason's labor. Windows and doors for a small affair should not cost more than fifty or seventy-five dollars, altho in the larger camps this bill may reach a hundred dollars. No painting is required, but if the interior is finished off in good lumber there will be required a gallon or so of varnish. Nails and incidentals may be put down at \$50 for a good size camp. Chinks between the logs should be filled in with mud, and then plastered over with cement. This gives a more enduring wall to withstand the effects of the weather.

Build a Bookcase in Every Home

WHEN you consider what books have done for the human race; how the veriest baby turns the leaf of its pictured alphabet book with pleasure; how children and their elders enter thru books into another world of joy and gorgeous fancy; how geniuses and scholars have put into them their very life, and the learned and the ignorant take out of them the light that illumines the goal of the human race; when you consider what books have meant to you, in the way of help and increased knowledge, make up your mind that in every home you build there goes in at least one bookcase. Build it in and build it spaciouly. The room may be only a small one, as rooms go, but thru books it will reach to the edge of the universe and the roof of heaven, and join the far future with the present and the distant past.



Comparative Strength of Air-Dried and Kiln-Dried Wood

SOME wood users claim that kiln-dried wood is as brash and not equal in strength to wood that is air-dried. Others advance figures purporting to show that kiln-dried wood is much stronger than air-dried. But some 150,000 comparative strength tests, made by the Forest Products Laboratory, of the U. S. Forest Service, on kiln-dried and air-dried specimens of 28 common species of wood show that good kiln drying and good air drying have the same effect upon the strength of wood.

The belief that kiln drying produces stronger wood than air drying is usually the result of failure to consider differences in moisture content. The moisture content of wood on leaving the kiln is generally from 2 to 6 per cent lower than that of thoroly air-dried stock. Since wood rapidly increases in strength with loss of moisture, higher strength values may be obtained from kiln-dried than from air-dried wood. Such a difference in strength has no significance, since in use a piece of wood will come to practically the same moisture condition whether it is kiln-dried or air-dried.



The Public is the Boss

MANY a man looks forward to the day when he will be "his own boss" in business on his own account. Being in business on your own account means that you have simply exchanged a few bosses for many, and this many consists of the public. The public is a most severe and exacting boss, but for the man anxious to serve it, and who will study its needs with a view to meeting them honestly and fully, the public will pay well.



Plastic Wood Qualities

PLASTIC wood is a collodion preparation made with very fine wood meal and of the consistency of putty. It is claimed to be waterproof, will set hard and can be turned with a lathe. Nails can be driven into the dried material without cracking it.

Planning the High School

**Unit of Accommodation Required is the Individual Pupil,
But 50 Per Cent of Total Floor Area Will be Occupied
for Other Than Strictly Instructional Activity**

By A. F. HUSSANDER, Architect

EDITOR'S NOTE: *In his former capacity as Architect for the Chicago Board of Education, Mr. Hussander designed over sixty-six new Chicago schools along most modern lines. His later experience as a specialist in the same field makes him well qualified to write upon School Planning.*

SOME years ago the National Education Association appointed a committee on the standardization of school building planning and construction. From this followed the determination of the standard percentage of floor area which various portions of a school building should have in relation to the total square foot area of the floors of a building. It may surprise many to learn that in a high school building, primarily designed for instruction, the normal percentage of space occupied for strictly instructional activities is only 50% of the total floor area.

The unit of accommodation required in a high school building is the individual pupil. By taking the student's requirement for space in which to study and recite the necessary and shop branches and to carry on other activities, it is possible to add together the sum total of all pupil activities in a way to form a concrete idea of the accommodations required for the entire structure.

Determination of Location

The best method of determining the location of the prospective high school building is by analysis. Take a large scale map of the district to be served, and designate the pupils by the blocks in which they live. Then, by drawing straight lines from the homes to the prospective school site it will become apparent where the greatest number of students live and the distance they are from school. This can be carried out to apply

further to the making of separate maps for each grade.

After the general location for a new schoolhouse is settled, it is essential that its ample size be determined. Ample size involves not only provisions for the present building and playgrounds, but future additional buildings, thus avoiding the expensive necessity of purchasing adjoining improved property at some future time. The modern tendency is toward large playgrounds and athletic fields in connection with school buildings so that ample facilities can be given for outdoor exercise.

The capacity of a high school is dependent, not only on the number of pupils who will take each study, but also on the length of the periods, the number of times each study is required per week, and the size of the classes to be organized. It is an expensive arrangement to have two or more fixed stations or locations for each pupil. The waste results when rooms are provided with desks which are individually assigned to certain pupils, and the respective desks are vacant all the time that the pupils assigned to them are in another part of the building. All classrooms and various other rooms can be used for duplicate purposes, and by filling up vacant class periods in these rooms it is possible to reduce the total number of classrooms required. Some of the academic studies will be required by all students in certain grades. Other studies will be taken by only a few of the students during each year, or only in one or two years of the school course.



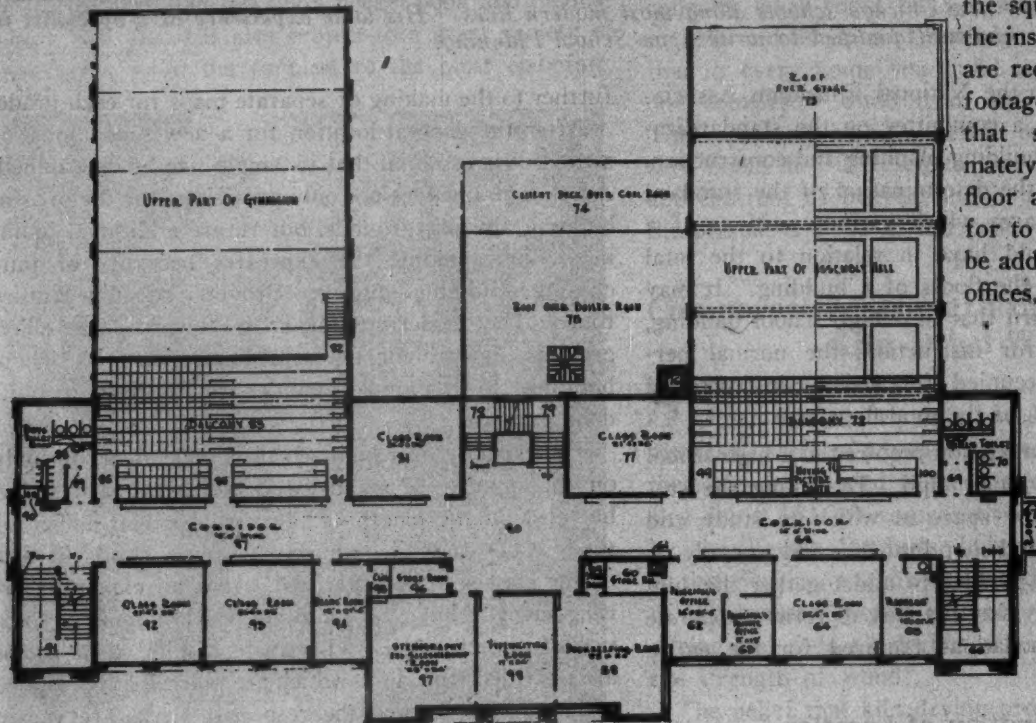
Owensboro High School, Owensboro, Ky. A. F. Hussander, Architect. This building is a good example of the present-day tendency in high school architecture.

For the accommodation of pupils provision must be made for study periods, either in classrooms or special rooms. If there is to be an assembly hall it can be used for this purpose, the students sitting in a certain number of rows a definite number of seats apart. The lunchroom may also be used for study periods, except during the lunch period, and when so used can be counted as part of the instruction space. By taking up all these factors and approximating the minimum num-

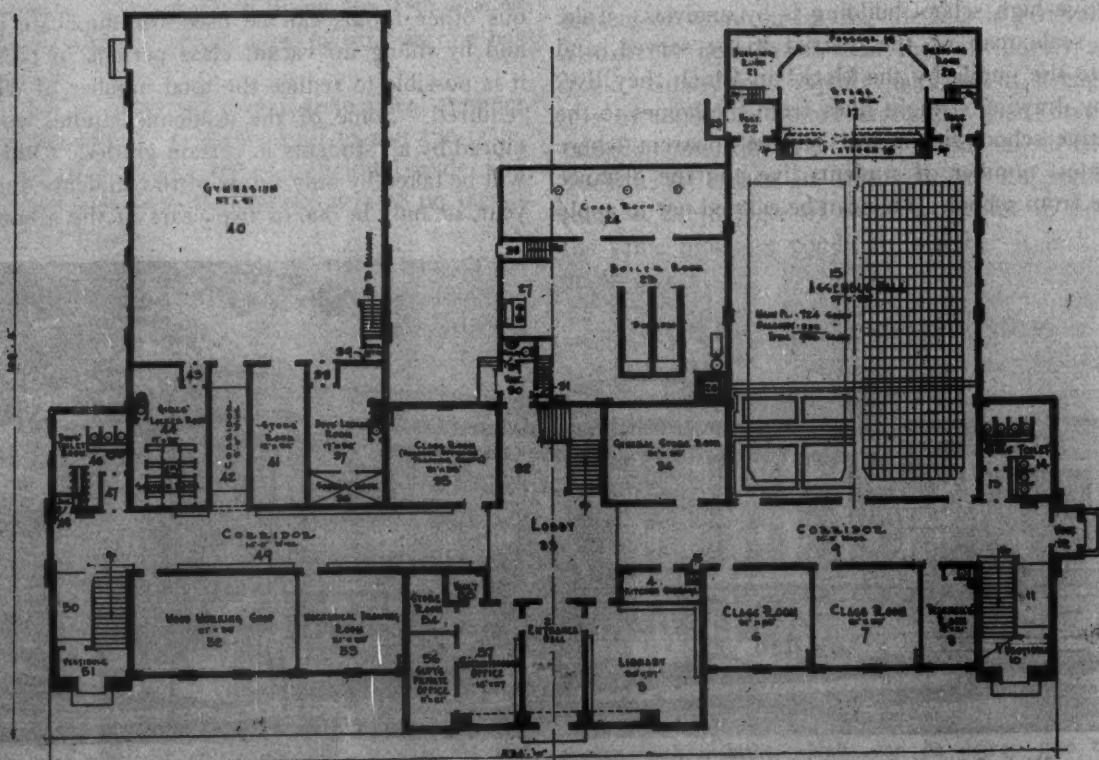
ber of pupils that will take any study or have a study period at a certain time it is possible to figure out a chart that will give the total pupil accommodation required.

The sizes of rooms required for classrooms, laboratories, gymnasium, shops, etc., must be carefully figured out from the dimensions of desks, tables, benches, cases and other equipment, with proper allowance for aisles, passageways, etc. By adding together

the square foot area of all the instructional spaces that are required a total square footage will be obtained that should be approximately 50% of the total floor area of the building, for to the above must now be added the administrative offices, the rooms for heat-



Second Floor Plan, High School, Owensboro, Ky., A. F. Hussander, Architect.



First Floor Plan, Owensboro High School, Owensboro, Ky. A. F. Hussander, Architect.

ing and ventilation, the accessories, the corridors, stairs, walls and partitions and other constructional features that will make the sum total of the square foot area. Therefore, by doubling the square foot area of the instructional spaces, we have the floor area of the school, complete.

After all the data and information have been gathered and tabulated it is then time to begin the outline sketch plans for the building. It is necessary to plan the foundations for the requirements in the way of use and occupation of the building. The sketch plans need not be elaborate or finished, and should be worked out on a fairly large scale for submission to the super-

at the side of the sub-grade, and thence conveyed by wheel-barrows to charge the mixer. But it developed that dirt and other foreign matter found its way into the mixture, and the concrete did not have the strength and quality a concrete road should possess.

Now, however, dry mixed batches are conveyed to a portable mixer located on the sub-grade. The batches are divided by a partition in the dump body, each carrying the proper proportion of dry aggregate. Sometimes the cement is transported separately to the sub-grade. By this system it is possible to accurately control the mixture of the concrete and keep it free from dirt and foreign substances.

A medium-sized motor truck is desirable, since the condition of the sub-grade is soft and there is usually rough-going because of grading work. Furthermore, the truck must have a minimum turning radius, be equipped with pneumatic tires and have a capacity to transport at least two batches of dry or wet aggregate, the batches being equal to the capacity of a standard concrete mixer.

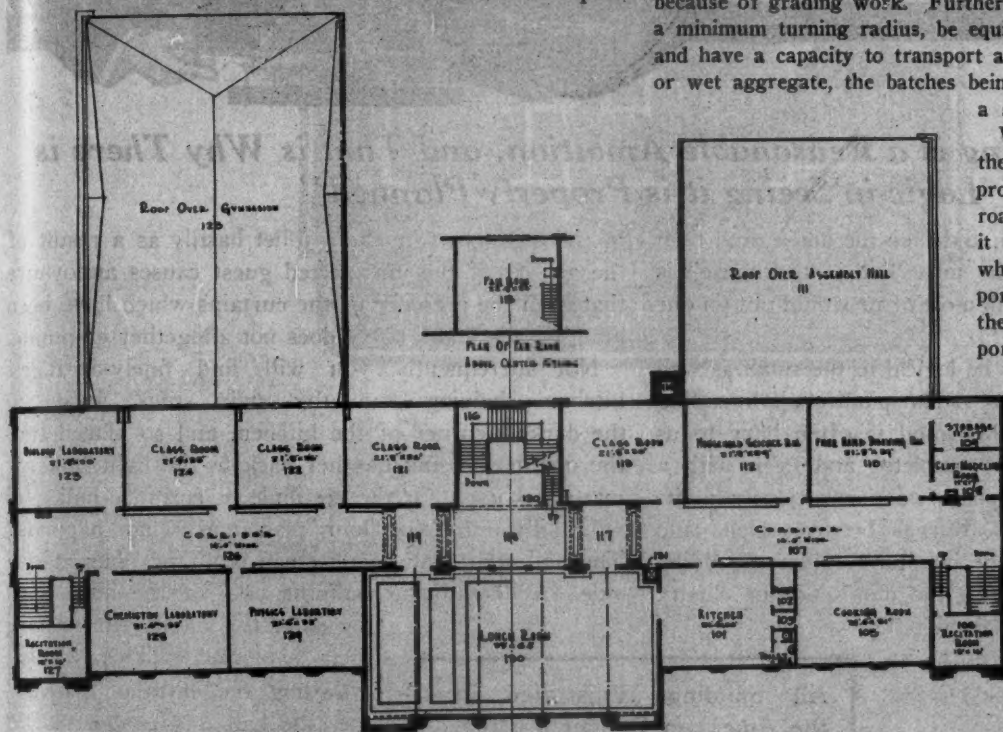
With sufficient equipment, the making of a concrete road proceeds at a rapid rate. The road really builds itself, since it offers the roadbed over which the material is transported to the mixing site and the central mixing or proportioning plant.

Every state now has its Highway Department, and offers a fine field for the road builder. Contract lettings are numerous and profitable and should be followed closely.

In choosing trucks for road making work it should be kept in mind that since road building may not necessarily be an all-season job, nor in one location, considerable care should be exercised in choosing the right kind

of hauling unit for the work. Thus, properly chosen, a truck fleet could be used after the roadbuilding season for coal delivery. Or, by removing the body and attaching a fifth wheel, the right kind of truck could be converted into a tractor for hauling semi-trailers, thus making profit in another quarter.

Where there are steep grades and unusually heavy fills encountered in road building the contractor's success with trucks depends upon proper gear ratio to insure traction in difficult conditions.



Third Floor Plan, Owensboro High School, Owensboro, Ky. A. F. Hussander, Architect

intendent and the board of education for study and suggestions. While the architect has in mind a general idea as to the architectural treatment of the building it is not until the finished sketch plans have been decided upon that anything definite can be done with the exterior elevation. In fact, school buildings must comply with certain regulations as to sizes of rooms and amount of glass area, height of windows from the floor and from the ceiling, and it is indeed an interesting problem to design a school building that will have some degree of architectural treatment and at the same time express the uses of the building.

Building the Concrete Road

THE new concrete roads that are now extending themselves in a white, firm network over the country are laid in different fashion than their older branches. It used to be that the aggregate, the sand, gravel and cement, was carried ahead of the mixer, piled



Medium Sized Motor Truck Necessary to Carry Dry Mixture Batches and Surmount the Rough Going of the Sub-Grade.

HOME PLANNING TALKS

*By Our
Head Draftsman*



"Home-Building is a Reasonable Ambition, and That is Why There is Logic in Seeing it is Properly Planned"

"FIRST the plan, and then the house, and then the people who must live in the house" is a motto I think most of us would put on our wall, if we had the time.

Why should not plans be logical to the small as well as the large householder? The picture an intending property owner has in his mind is often hazy to us when to him it is most complete; and even with a concisely drawn set of plans we unconsciously invite some misunderstanding. But as between plans and no plans, the conclusion is inevitable. Home-building is a reasonable ambition in the minds of our clients, but it is not reasonable if there is an inclination to go ahead with the structure without having it properly planned.

A client will say: "I am interested in having a bungalow built. I like the California style of bungalow. We must have five rooms, and a space for a garage and garden at the back of the lot." There is room for \$5,000 worth of misunderstanding right there. How wide is that lot, and how deep? Are the bedrooms to be in the front or the back, or to one side? Where is the basement stairway to be? Will there be an attic stairway, and where? What kind of a roof? Will the front door admit everyone right into the family circle?

In one house I know of, built without the right kind of planning, every move in the dining room and kitchen is visible from the living room, simply because the future occupant insisted on glass doors in both the kitchen and dining room to give light that should have been planned for from an extra window. As a result the housewife cannot keep out of the sight of visitors she is not prepared to meet, and hurried trips

to the bedroom to make a toilet hastily as a result of the arrival of the unexpected guest causes annoyance that even the presence of the curtains which have been hung on the doors lately does not altogether eliminate.

Not infrequently you will find finely-arranged kitchen shelving—and the sink stuck away in the darkest corner of the kitchen, and so placed that the one at the sink has her back to the light, making matters worse. Or the vestibule or entrance hall goes willy-nilly into the floor plan and what happens? The hall stair wall comes flush with the door at one side. Where, then, shall the man of the house and

the other folks and visitors hang their hats and clothes without crowding the entrance passage-way the hall is intended to be? Again, the windows go in the bedroom, and the housewife finds to her sorrow that, no matter where she puts the bed, the head of it blocks half the light of either window. One house that comes to mind had to tear out a brick wall and do expensive alterations because the upstairs rear bedroom and the dining room downstairs were built with windows opening on

the side. A man bought the lot next to that house and put up a house that blocked all the light away. Those window locations "just happened." The frames came and were put up as the spirit moved the particular carpenter that put them into the framework of the building. A little planning would have foreseen the next-door difficulty and saved much extra outlay and discomfort.

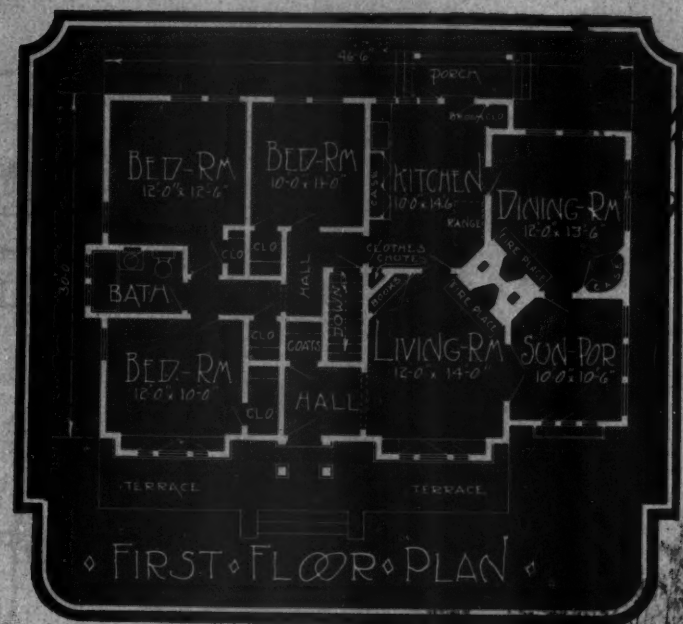
Seventy-five per cent of all the trouble that comes with a new building can be done away with if it is properly planned.

All buildings illustrated in the American Builder are real buildings that have actually been constructed and found to be practical and popular. Anyone interested in obtaining working plans and other detailed information should consult the nearest architect, builder or dealer, or write the American Builder, 1827 Prairie Ave., Chicago.

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BLUE RIBBON HOMES

PRACTICAL
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handle it with care.



THE BRIDAL BUNGALOW. Fortunate indeed would be the bride who could count herself as mistress of this delightful home on her wedding day. The design pleases, and is artistically perfect; likewise it suggests the expression, "as neat as a pin." Of course the designer has gone back to the Colonial period for the small gables and the charming entrance, capped with the finials that heighten the eye-line of the dwelling. There are five rooms and a sun parlor in the plan—surprising, considering the impression of smallness one gets superficially from the view. Entrance is thru a hall into the living room, 12 feet by 14 feet. There is a fireplace here, and it is worth noting how this is backed against the wall in such a way as to make it serve a similar purpose for the dining room. There is also a built-in bookcase in the living room. The dining room is 12 feet by 13 feet 6 inches, and immediately off it is the kitchen, 10 feet by 14 feet 6 inches, with a broom closet, fine shelving, a window-lit sink and a clothes chute to the basement laundry. There are three bedrooms, with fine closet space, and convenient to the bathroom. If one wished, the fireplace could be left out of the plan, giving much more room in the living room and dining room, and improving a corner of the sun porch. The dimensions over all are 46 feet 6 inches by 30 feet.

Fine Example of Dutch Colonial

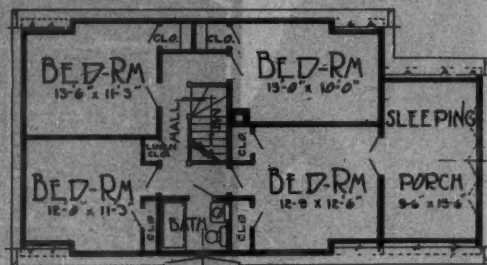
Front Cover Home Shows Traditions of Fine Period

DUTCH COLONIAL is the design used with such attractive results in this house. From the roof with its variegated shingles to the planting of shrubbery and vines and flowers it is pleasing in every detail. The bold lines of the siding and the shuttered windows, and the quaint oval window lighting the bathroom on the second floor are all consistent. Entrance is thru the recessed doorway, and the hall gives immediate access to the living room, 15 feet by 23 feet, with its French doors that open onto a terrace fitted with a settle that invites rest. Crossing the hall, with its opportunity for a decorative stairway, we are in the dining room, 15 feet by 12 feet 6 inches. This room connects with its own porch, and likewise with a breakfast room, 9 feet 6 inches by 8 feet 6 inches, which could serve, instead, as a study or sewing room if desirable. The kitchen is 9 feet 9 inches by 10 feet, and is very well arranged, having a butler's pantry besides the regular pantry, and well placed refrigerator space and shelf room.

Upstairs are four bedrooms and a sheltered sleeping porch, served by a bathroom that is conveniently placed off the hall. There is attic room also, as witness the louver window at the gable end—an attractive place for a children's playroom, to mention nothing of the storage space it offers.

There is a construction change possible in this design, thru the addition of a chimney to extend upward from the left, dividing the end wall in two. This would give a fireplace in the living room, and upstairs the two left bedrooms could be thrown together, making one master's room, with fireplace here also. Worth noting is how the dwarf cypress key-in with

the design, by reason of their intelligent placing in the small terra cotta pots on the terraces.

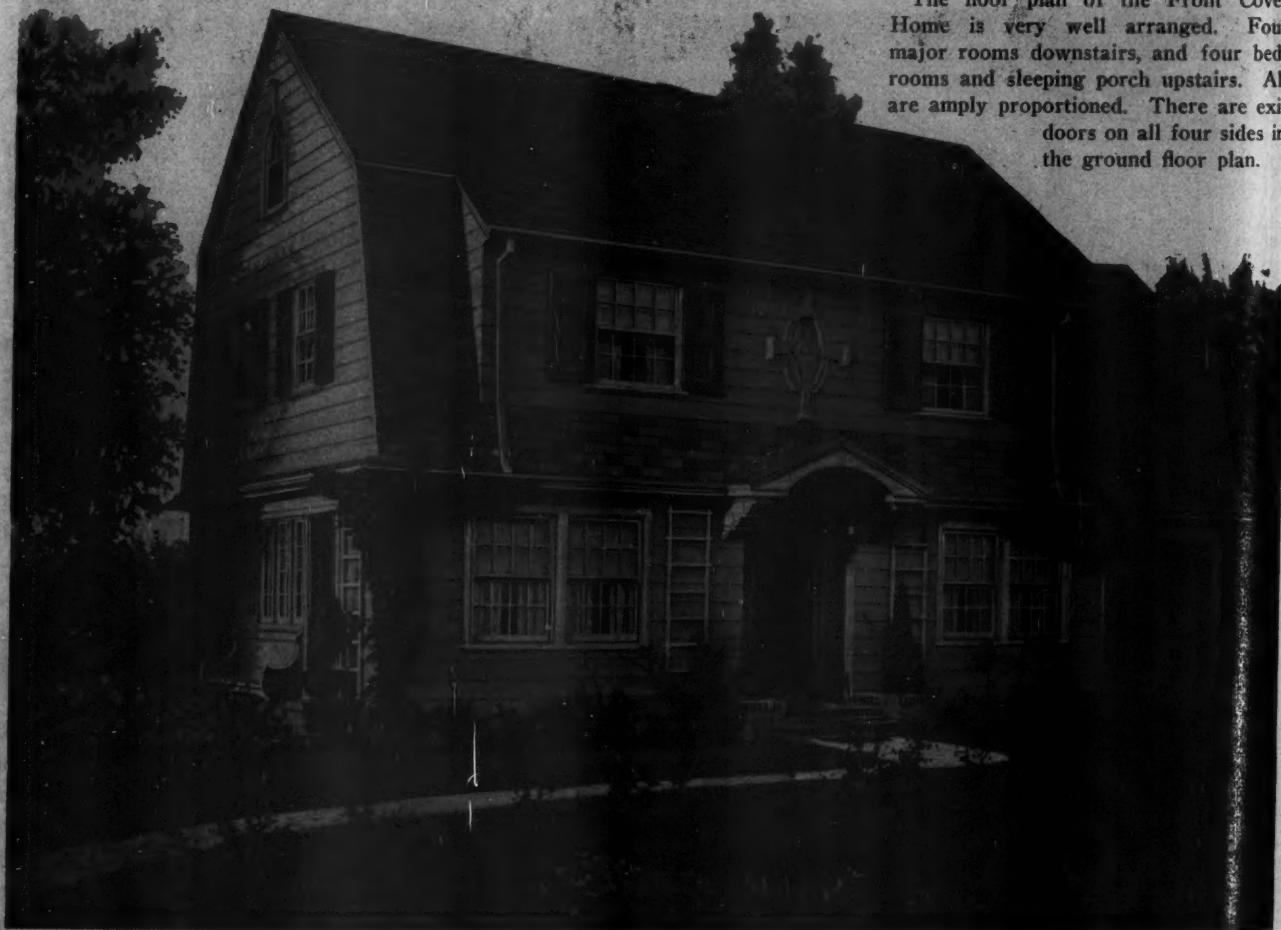


• SECOND FLOOR PLAN •



• FIRST FLOOR PLAN •

The floor plan of the Front Cover Home is very well arranged. Four major rooms downstairs, and four bedrooms and sleeping porch upstairs. All are amply proportioned. There are exit doors on all four sides in the ground floor plan.



Our Front Cover Home This Month Is a Beautiful Dutch Colonial of Nine Rooms.



What Does It Matter if the March Wind Blows, Provided You Have a Fireside Like This? It is built of brick and stone and the opening for the logs and andirons is generously proportioned. It is safe to say that this home never lacks in comfort or welcome guests.

The Open Fire

By ESTELLE B. MARLOWE

THE fireside with its close-bound family circle about its rosy glow and comfortable warmth, is an institution as old as man. So closely associated with every home instinct has it been thru all the ages past that the word has become synonymous with home, and a man's home has been called his "fireside." Make as many crusades as he will from the old fireplace, building sternly modern homes without them, or tucking himself away in conventional apartments with his own particular allotment of heat, man has never been able to get away from his deep, inborn love of the open fire.

Today, often with the aid of more perfected heating systems, man is building back the old grate. He is spending every ingenuity to make his old love a thing of beauty compatible with his ancient instinct of comfort, and his cultivated sense of fitness. It is this studied instinct that has produced, or rather carried him back to building his fireplace of stone or more modern brick. Just as in the ornate old wood mantles

he trended away from primitive instinct, so in the built-in mantle he endeavors to return to his natural love and to the simple wisdom of primitive man. What, too, is more beautiful than the primitive conceptions of architecture in the full development of civilization and art.

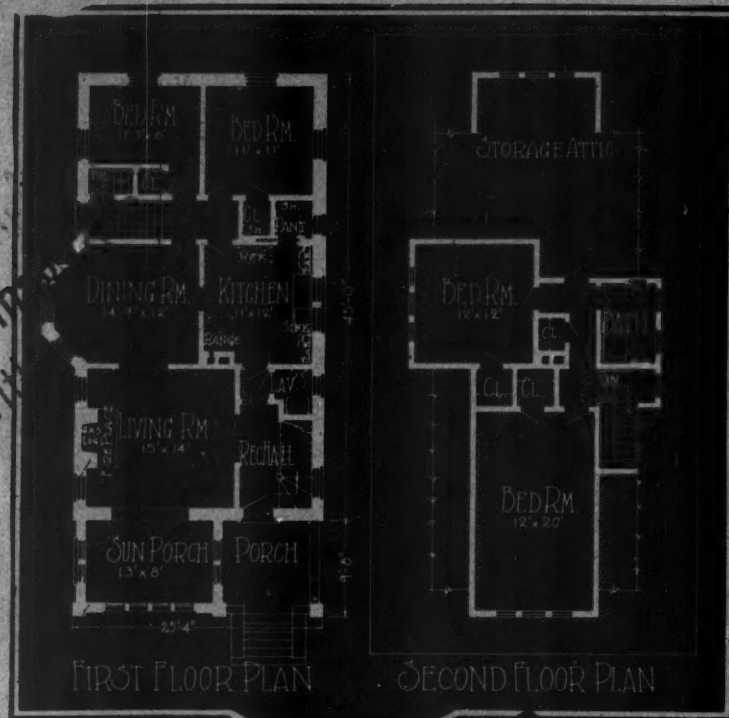
While hundreds of illustrations could be used on this subject, the accompanying photograph is a very excellent example of the stone and brick idea well applied. The view is taken well back in the room to show the wide hospitality of a fireside like this compared to the narrow accommodations that we have all seen or experienced around the less hospitable grates of past years.



A NEW artificial daylight lamp recently put on the market in England utilizes an obvious feature, but which has heretofore been overlooked. The lamp, of the regular incandescent electrical type, is equipped with a reflector which is colored with spots of certain shades. The resulting reflection is much like ordinary daylight. One practical demonstration made was in the lighting of a park with sixty of these lights, and the illumination rivaled daylight.

BLUE RIBBON HOMES

PRACTICAL
&
ARTISTIC

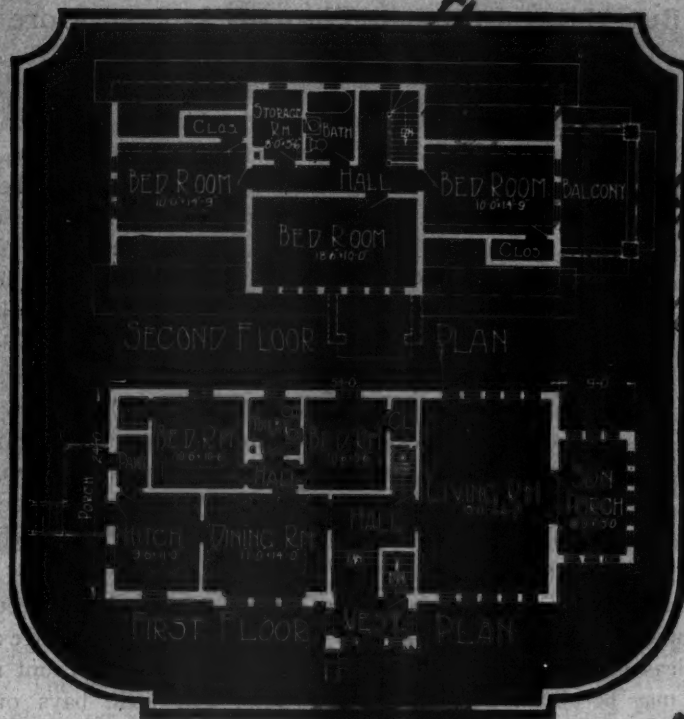


ATTRACTIVE BRICK RESIDENCE. This has five rooms, and opening from a commodious side porch is the reception hall, with open staircase leading to the second floor. Off the hall is the living room, 15 feet by 14 feet, equipped with gas log fireplace and opening into the sun porch thru a doorway which may be hung with French doors or left open, at the owner's discretion. The living room is connected with the attractive bay-windowed dining room, which is 14 feet 9 inches by 12 feet. The kitchen is not at the end of the house, as is usually the case, but is at the side. It is 11 feet by 12 feet, and has well arranged shelving and enclosed pantry, with space for the refrigerator at the door leading to the rear vestibule, eliminating muss when the ice man comes. There are two bedrooms downstairs, served by a lavatory near the reception hall, and two bedrooms and a storage attic upstairs, in addition to the bathroom. It will be seen that the house possesses more inside room than seems at first apparent. If the family is not large it would be possible to make the rear left bedroom downstairs into the kitchen, and using the kitchen, as on our plan, as a sewing room or study. The dimensions over all are 25 feet 4 inches by 54 feet 8 inches.

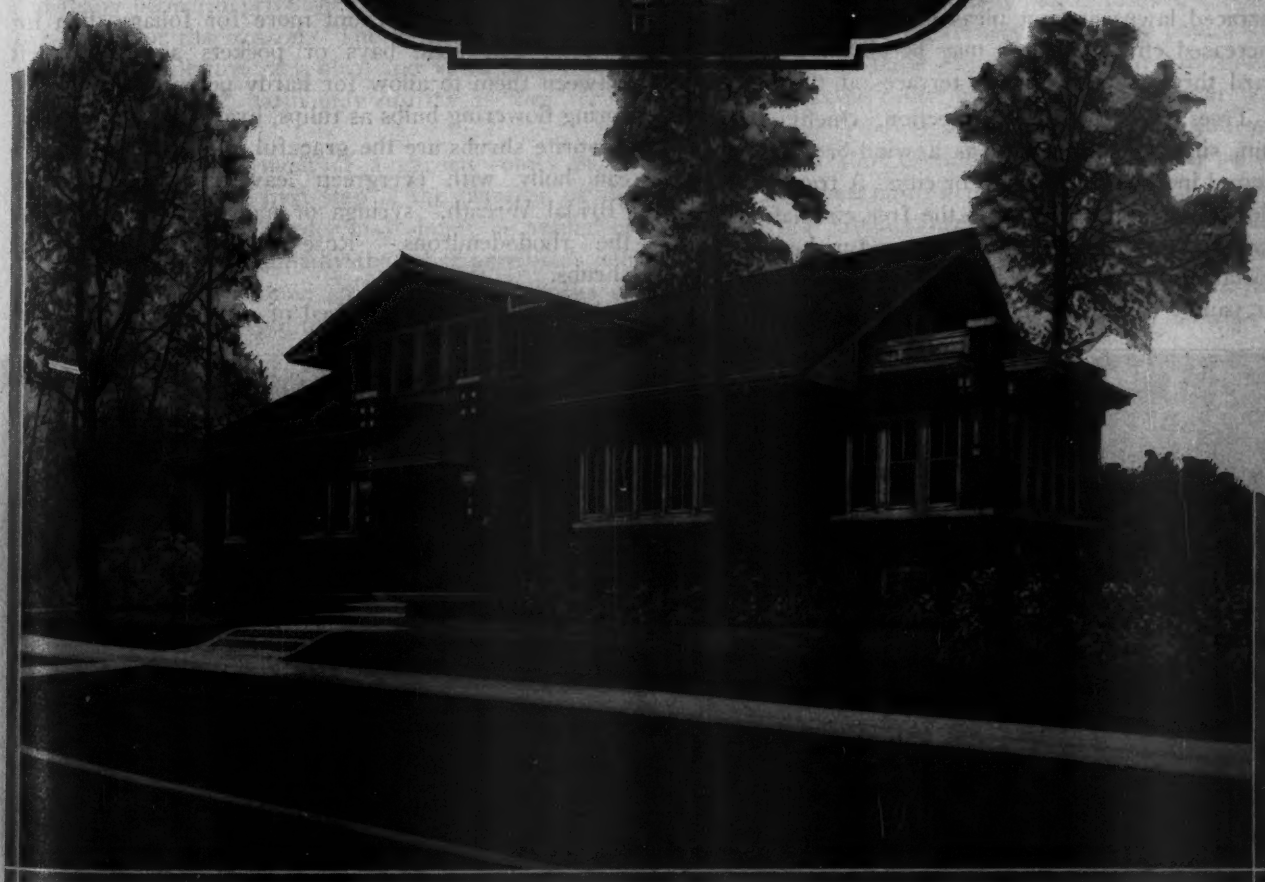
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BLUE RIBBON HOMES

PRACTICAL
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Read this magazine
with care.



UNUSUALLY SPACIOUS BRICK RESIDENCE. The bungalow lines of this dwelling deceive, for it contains many more rooms than other residences with seemingly more pretentiously-spaced exteriors. There are eight rooms in all. Taking a look at the downstairs rooms we find that entrance is thru a side vestibule that leads into a hall, and thence to the living room, 15 feet by 22 feet. There is fine lighting here from long French windows at either end, and also from the French doors that open onto the sun porch, so enclosed that it is virtually a ninth room. Thru the hall again we are in the dining room, 11 feet by 14 feet, with a bay window, and connecting directly with the kitchen, 9 feet 6 inches by 11 feet. A doorway in the dining room leads to the two downstairs bedrooms, with their convenient toilet and lavatory. Upstairs we have three bedrooms, a storage room and a bathroom. The left bedroom opens onto a balcony which could serve for sleeping purposes. The wide, over-hanging roofs suggest this house for localities where there are extremes of climate, since in summer they give shade and in winter ward off the wind. Dimensions over all are 60 feet by 24 feet.

Planning the Home Grounds

Small Lot Requires More Care in Arrangement Than a Large One—Good Soil an Essential, But Maintaining the Planting Is Even More Important

By WILLIAM A. BEAUDRY

THE enjoyment of nature's pleasures does not require a rich man's income—only the outlay of slight effort on our part. What oriental rug is as perfect as a green lawn or as gorgeous as a simple flower garden? What expensive painting can equal the dogwood or the peach or apple tree in spring bloom?

We begin with the lawn. No subsequent effort can make it good with a poor beginning. A sandy subsoil, if uncorrected, draws away the vitality from the grass roots. The subsoil taken from a basement excavation is not good. The best lawn base is deep, loamy soil. If it is not available, the soil at hand may be enriched by the addition of compost or barnyard manure; dried, prepared cow, sheep or pig manure; or bone meal. After planting the seed the ground should be rolled; one or two rollings are sufficient. Generally speaking, terraced lawns are not pleasant or practical, altho an increased effect of depth may be obtained for a back yard thru one or two low terraces at the rear.

Trees should afford protection, chiefly from the sun, since their function as a wind-break is not required in the average town or city. A tree planted too close to the house prevents the free circulation of air thru the upper story in summer, and makes it uncomfortable. Conversely, a tree placed close to the kitchen or pantry corner of the house helps conserve ice and

keep the kitchen cool. Lombardy poplars give fine decorative value in a large yard, but the poplar is a makeshift at best, simply because it is quick growing. Its roots spread fan-wise under the surface of the yard, sapping nourishment from the grass and raising havoc with the pavement. The leaves begin to shed in midsummer, making a neat lawn impossible. Elms are slow-growing, but grow in beauty and dignity always. The maples, hard or soft, are excellent, as are the oaks. Beeches and catalpas grow fairly rapidly and their blossoms fill the air with fragrance—and bees. Smaller trees like the tree of heaven, the cut-leaved maple and the weeping birch, and the spire-top spruce and its companion evergreens, including the dwarf cypress, have much decorative value for the home grounds.

Shrubbery should be grouped in fair sized masses, rather than used as a fringe around the house or porch. Shrubs of any kind count more for foliage than for flowers, and little bays or pockets should be left between them to allow for hardy perennials and such spring flowering bulbs as tulips, hyacinths and narcissi. Favorite shrubs are the graceful inkberry, the American holly with evergreen leaves and red berries, "Bridal Wreath," syringa or mock orange, lilac, and the rhododendrons. Roses naturally classify as shrubs.

Vines and ivy are accused of causing walls to crack



The Landscaping of a Small Space Requires More Care in Arrangement Than Many Large Ones. Maintaining the planting is even more essential. This beautiful little house in a Chicago suburb was completed with growing beauty by the author.



A Pergola Such as This Would Be Welcome in Any Home Grounds When Designed to Snuggle in with the Shrub Borders; Designed and Planted by Wm. A. Beaudry.

and many people deprive their homes of their decorative value for that reason. The truth is that rain and frost cause walls to crack also, and vines or ivy may, by finding crevices, harm only insofar as they reveal poor workmanship.

The greatest enjoyment of a garden comes in its actual making. The first step is the planting of the hedge border—or the border may simply be annual or perennial flowers. Gradually the other perennials and annuals find their allotted space. The hollyhocks of this year's planting begin to bloom next year.

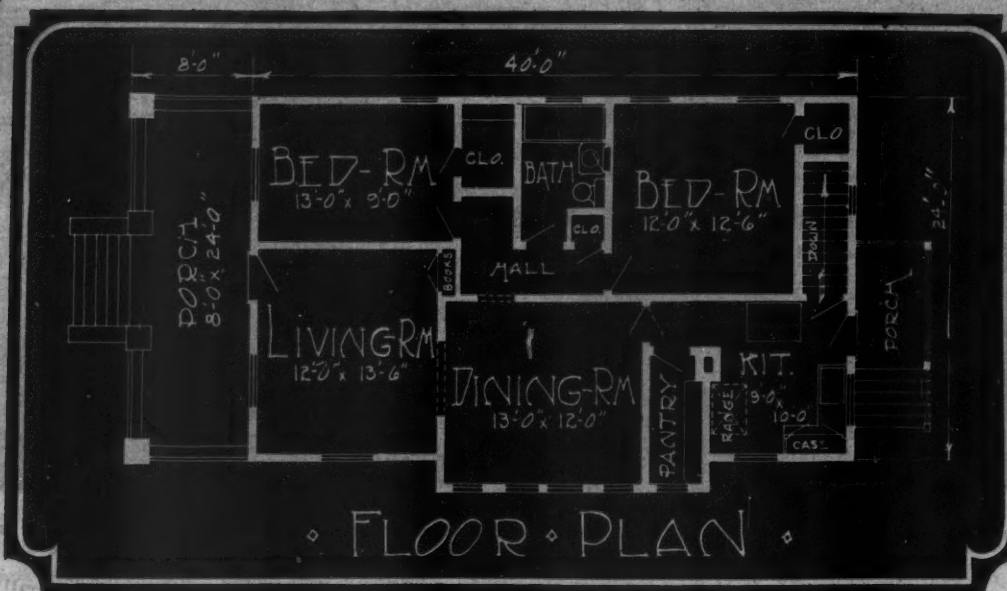
Naturally, no home plot is too small to have its vine-shaded pergola, its rock fernery and its lily pool. The proper choice of these suggests that your local landscape architect be called into service. Whatever way you plan home grounds and garden either for yourself or for any of your clients pleasant results can be secured if an honest effort is made to meet existing conditions and no attempt made to merely do things for show. Approached in this way the yard and garden year will be productive of pleasure, health and encouragement to the neighbors to do and attempt likewise.



A Well Designed Lawn Anywhere Can Look as Well as This One, Which Was Planted Only Three Months Before Photograph Was Taken. The wise architect or builder sees to it that his new houses are completed and made 100% attractive by the help of the landscape gardener.

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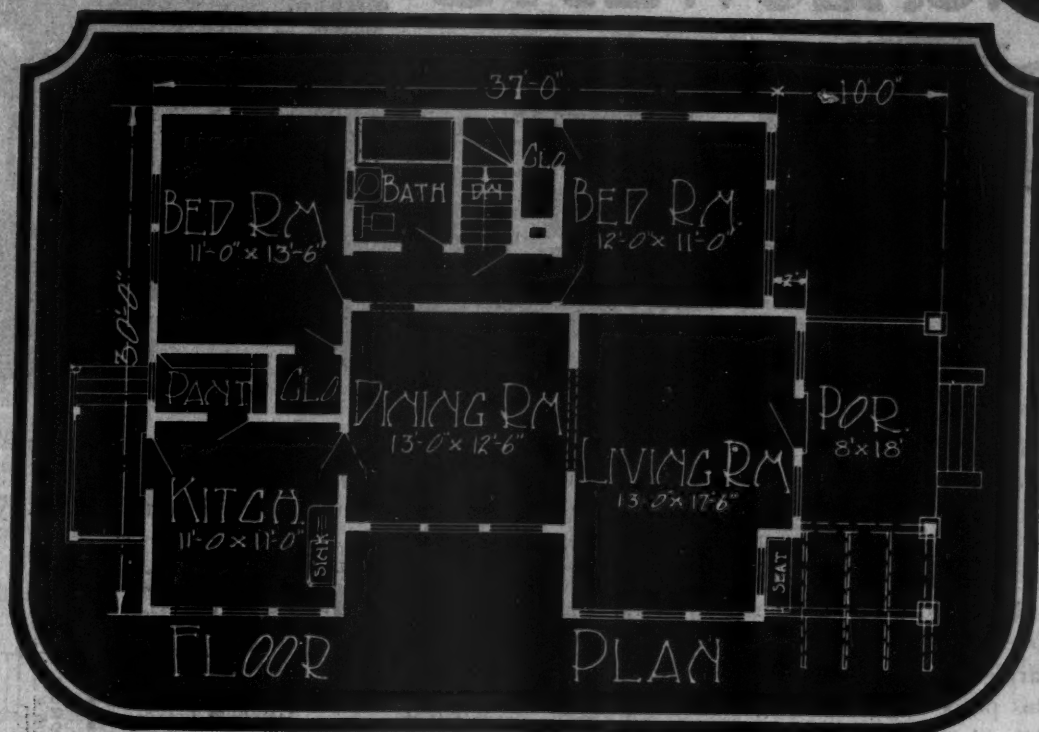
BLUE RIBBON HOMES



FINE, SERVICEABLE DWELLING. This design calls for inexpensive construction altho possessing many of the touches characteristic of more "classy" neighbors. One can easily imagine it as a real home, its roomy veranda filled with pleasant home folks and happy visitors. Perhaps the flowers help in this; they are numerous and well arranged. There are five rooms, with possibilities of another in the attic. Entering the doorway that opens off the recessed porch we are in the living room, 12 feet by 13 feet 6 inches. This room has light on two sides, and space for a built-in, ceiling-high bookcase or combination desk and bookcase. Off this room is the dining room, 13 feet by 12 feet, separated from the kitchen proper by a pantry. The kitchen is 9 feet by 10 feet, has everything very compactly arranged, the sink right by the window, and opens onto a rear porch. There are two bedrooms with bathroom adjoining. A feature of the construction is the siding: frame to the top of the porch cornice line and shingles above this. The dimensions over all are 24 feet by 48 feet.

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BLUE RIBBON HOMES

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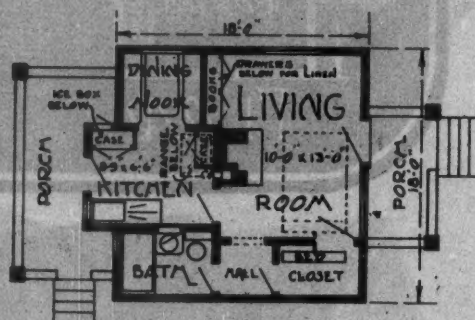
COSY LITTLE BUNGALOW which holds many possibilities, not the least of which is its desirability as a small farm home. There is a roomy front porch with an arbor seat under the pergola, and the front door leads into the living room, 13 feet by 17 feet 6 inches, with fine wall space for a future fireplace, and bookcase possibilities along the wall that divides from the dining room. The latter is 13 feet by 12 feet 6 inches, and carrying out the idea suggested for the living room bookcases, could be backed on this side with built-in china closets. The kitchen is 11 feet square, and the jutting bay would benefit by a window at its blind side, giving a view of the road. The kitchen is lighted from two sides and opens onto a rear porch which could be screened and sashed in to give a washroom or breakfast room. There are two bedrooms connecting with the bathroom and assured absolute privacy by the doorway which separates them from the day rooms. If this bungalow were to be built on a farm a good suggestion would be to turn it around, thus placing the porch at the side and having the living room, dining room and kitchen windows give a view of the road, with the added interest this means in lonesome or sparsely settled localities. The dimensions over all are 30 feet by 47 feet.

The BUNGALOWETTE



OUR Bungalowette for this month consists of a living room, dining nook, kitchen, bed closet and bathroom, with two generously proportioned front and rear porches which offer the possibilities of two extra rooms. The living room is 10 feet by 13 feet, with fireplace, built-in bookcase and linen drawers, and ample window lighting. At night time it is a bedroom, the disappearing bed being withdrawn from the bed closet for this purpose. The dining nook consists of built-in table and settle, accommodating four people; five, if a chair is placed at the table end. The kitchen has an unusually compact arrangement of shelving and cabinet casing to double in on the regular space as occupied by the range and ice box. The latter has an outside icing door. The bathroom is not slighted in

size, and is reached thru its own small private hall. Tho the floor space is only 18 feet by 18 feet, this is a perfect little home, and can be built reasonably.



Floor Plan of Compact Little Home 18 by 18, Equipped for Modern Convenient Living.



This Bungalowette Home Will Be a Joy to Any Two-Person Family. "Little, but O My!"

New England Colonial Design

Simply Designed House Which Incorporates Time-Tried Features Favored by Colonial Builders

By R. C. HUNTER & BRO., Architects

GOOD proportions and simple, refined detail give this house a character that no amount of "fussy" elaboration could even approach.

It is done in a style that is fast supplanting the "freak" and "show" styles. The good taste that abounds in properly designed New England Colonial houses is hard to beat.

The entrance porch forms the feature of the front, about which all interest centers, and this is as it should be, for it brings this important feature into the desired prominence. With its latticed sides and high back benches it bespeaks hospitality.

This house is well detailed. Note the pleasing relation between windows and blank walls, the heavy sash muntins, the unusual shutters and the clean cut contours of the cornice moulding. The architects have given much study to each.

The walls are covered with heavy shingles, laid wide exposure and finished white. The roof is a sea green slate.

The plans show a room arrangement that economizes on space, gives interiors that decorate well and there is ample space for all of the required furnishings.

The windows are so placed as to give an abundance of light and cross ventilation where it is needed.

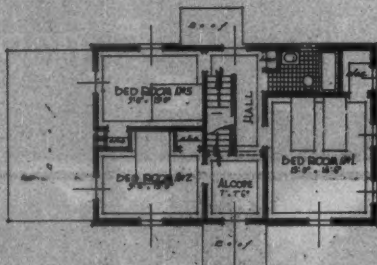
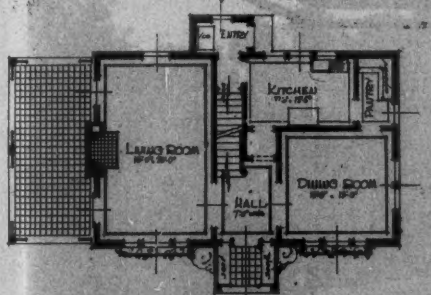
Each bed room has a generous closet and a linen closet opens from the hall.

Stairs lead from the second story to a large attic.

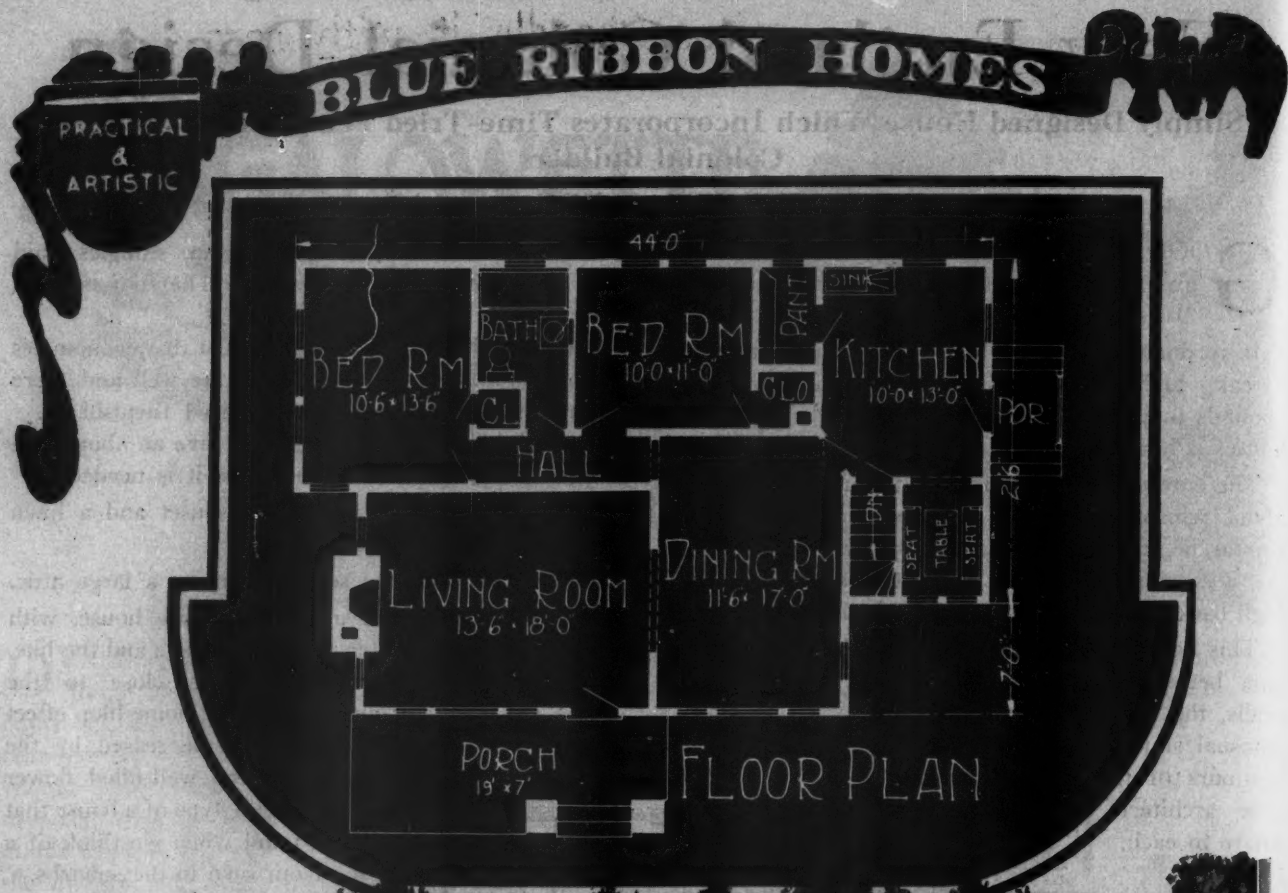
A cellar is provided under the entire house, with laundry, space for heater and coal storage and the like.

This house sits close to the ground, giving a home-like effect which is further increased by the planting and the well-filled flower boxes. It is the type of a house that comes to mind when we think of a house of our own in the suburbs.

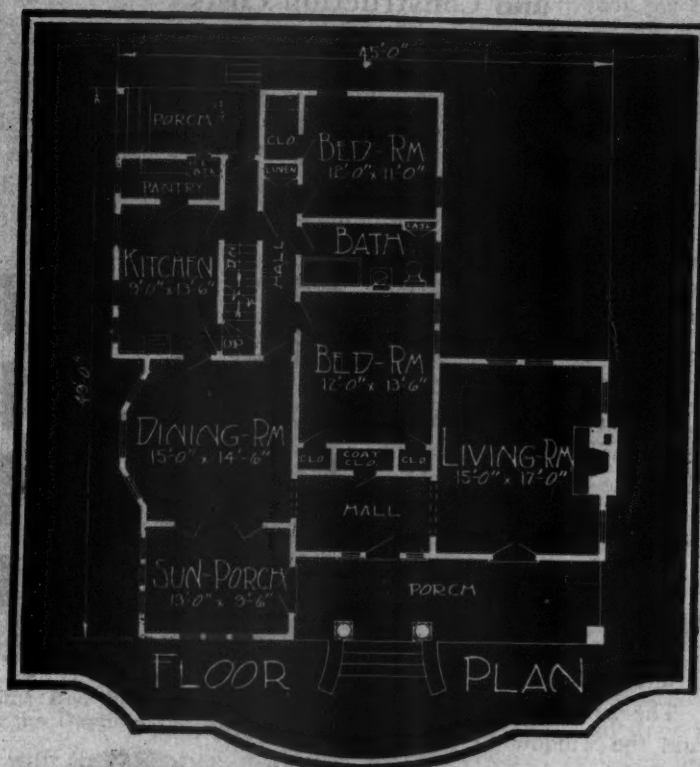
The little garage is designed to match the house, it is built of the same materials and has the same finish.



Photograph and Floor Plans of a Typical New England Colonial Home of the Simple Type. "No Gingerbread" in this house designed by R. C. Hunter & Bro.



A REMINISCENCE OF SPAIN is in this attractive bungalow, designed pre-eminently for the warmer climates of California or Florida. The effect of the tile against the stucco exterior is very pleasing, don't you think? The wide porch terrace and the covered entrance portal give immediate access to the living room, 13 feet 6 inches by 18 feet. It has a fireplace and an open doorway connecting with the dining room, which could be flanked at either side by bookcases and china closets—built-in, of course. The dining room is 11 feet 6 inches by 17 feet, has three windows and opens thru an end door into the kitchen. This is 10 feet by 13 feet, is well lighted and has a window-lit pantry and a rear porch entrance. There are two bedrooms, reached from a door in the dining room, and these, together with the bathroom, are so placed as to insure fullest privacy. Thus, there are five rooms in all, and if the house is built where lot space is not an object, it could be spread to have the floor plan include a patio, or enclosed inner court. In allowing for this, space would be developed for an extra room. The dimensions over all are 33 feet by 44 feet.

Please handle it with care
BLUE RIBBON HOMESPRACTICAL
&
ARTISTIC

CHASTE, SIMPLE, ELEGANT EXTERIOR characterizes this splendid stucco residence. It appears at its best finished in white, and altho the roof line is finished to simulate thatch, a softer, neater effect thru the use of improved shingling of wood or composition gives no jarring note. Note how the dormer window sets off the roof, and how the louver gives a decorative touch to front gable. There is a Romanesque touch to the entrance to the recessed porch, with its long French door and windows. Entering, we are in a hallway, with a convenient clothes closet. To our right is the living room with its fireplace, 15 feet by 17 feet, which can also be reached thru the French door opening from the porch. The dining room, at the left off the hall, is bay-windowed and 15 feet by 14 feet 6 inches. It is a cheerful room, connecting as it does with the sun porch. The kitchen is 9 feet by 13 feet 6 inches, and is directly off the dining room. It has a pantry with a window and an ice-receiving door for the refrigerator. There are two bedrooms and a bathroom, all so placed as to be thoroly private. A rearrangement of the floor plan would give an enclosed patio—very suitable for this style of house. The dimensions over all are 45 feet by 49 feet.

Ideal Narrow Lot House

Model House Built in New York to Demonstrate Narrow-Lot Planning and Construction Costs

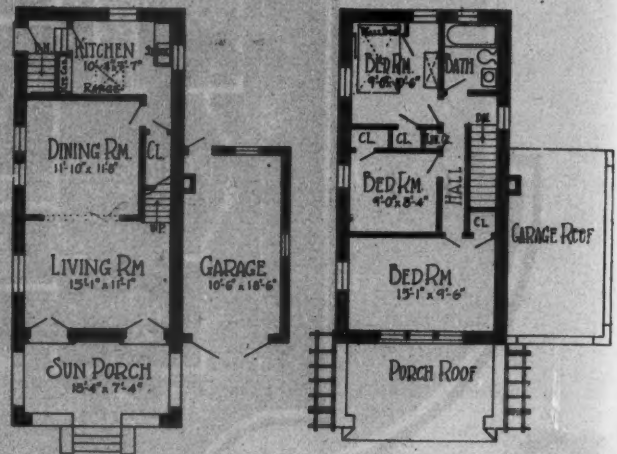
By L. PORTER MOORE

A PRACTICAL and distinctive concrete block and cement stucco house of six rooms, strictly fireproof, is shown in the accompanying illustrations. The design is particularly interesting because of its unusual flexibility, it being possible to build the house in three ways. Choice of construction method would depend upon the size of site and preferences of the homebuilder.

As the photograph of the completed structure shows, the entrance is at the front. In the architect's drawing the entrance is shown at the side. This form of construction would make it possible to have a glassed-in sun room or sun porch at the front, and thus add a seventh room.

The house is attractive under both forms of construction. The third construction method that could be employed would be to duplicate the house, using the side wall shown to the left in the architect's floor plans as the party wall. The small window to the left in the living room and the window to the left in the kitchen would be walled in, and a two-family double house would result. A lot of forty-foot front, or wider, would be necessary. As is known, the advantages of the duplex house are many, and it is a type enjoying a wide popularity at present in New York and Chicago.

This house was specially designed for the Home Owners' Service Institute, the Portland Cement Association and the New York Tribune under the direction of Henry Atterbury Smith, consulting architect. It



This House Was Recently Erected in New York City by the Home Owners' Service Institute, in Co-operation with Other Agencies to Demonstrate That "Now Is the Time to Build." Floor plans above show the very good arrangement of this narrow lot home.

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In the Back Bed Room the Bed Is Built-in and Folds Away in the Daytime.

was built in connection with the campaign to determine current costs and conditions affecting small house construction in and near New York City.

It was designed by H. T. Jeffrey, a Brooklyn architect, who has specialized in planning small houses for narrow lots found in the more congested sections of Chicago, New York and other large cities. Only sixteen feet wide as a single house, it is possible to build it on a twenty-foot lot.

The living room is large and attractive, extending the full width of the building. The dining room is separated from the living room by two small pilasters at the sides of the large door opening. The two rooms are, in reality, virtually one insofar as actual size is concerned. The kitchen is provided with the usual gas range and enameled iron sink. The wash trays are placed in the basement, in accordance with the modern practice of keeping the laundry apart from the kitchen.

There are three bedrooms on the second floor. A large bedroom is above the living room, extending across the full width of the house. Two slightly smaller bedrooms are provided opening off the second story hall. Each bedroom has a closet of its own and a built-in linen closet opens into the hall. The

bathroom, with tile flooring, is at the head of the stairs. It has the modern plumbing fixtures, including a built-in or recessed bath tub.

For the porch floor red cement is provided, blocked off in squares. The living room and dining room



Architect's Sketch Showing Alternate Treatment, with Side Entrance and Front Porch a Sun Room.

floors are to be of strip oak or parquet. The other rooms will have floors of comb grain, long leaf yellow pine. The bathroom floor is of mosaic tile and the kitchen covered by heavy linoleum.



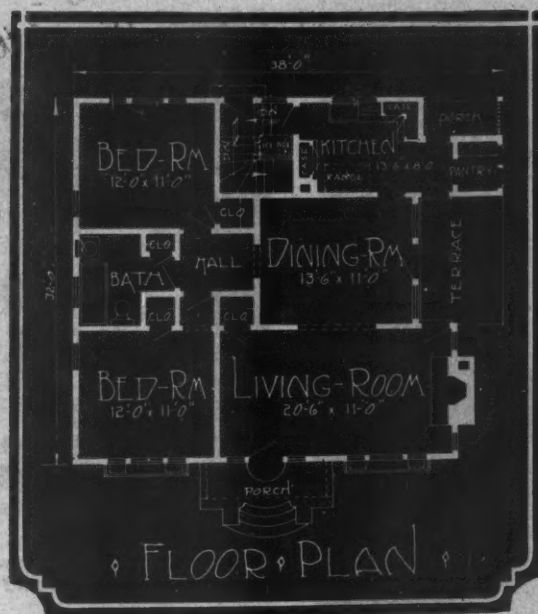
THE builder who is filling out a big income tax return this month is the one who was reading *AMERICAN BUILDER* last year. The one who is reading *AMERICAN BUILDER* now is putting up the buildings this year that his competitor will be only thinking about next year.



Photo of Well Furnished and Decorated Dining Room in New York Demonstration Home.

BLUE RIBBON HOMES

PRACTICAL
&
ARTISTIC



HOME-LIKE, HANDSOME BUNGALOW. The quaint roomy porch of this bungalow and the front door, with its quaint sidelights, gives access to the living room, 20 feet 6 inches by 11 feet. In the living room is the fireplace and looking directly thru the open colonnade doorway is the dining room, 13 feet 6 inches by 11 feet. Opening as it does on the terrace the dining room makes a cheerful place and leads directly to the kitchen, 13 feet by 8 feet. The latter has its own entrance from the terrace, and compact shelving and convenient, window-lit pantry. The bedrooms enjoy full privacy and both reach the bathroom thru a connecting hall. With its neat brick foundation of red or rough textured brick and flower boxes, together with the low sweep of the roof line, this is a very pleasing dwelling. The cornice should be allowed to return around the roof, as in the illustration, as this is an integral part of the correct design. Dimensions over all are 38 feet by 32 feet.

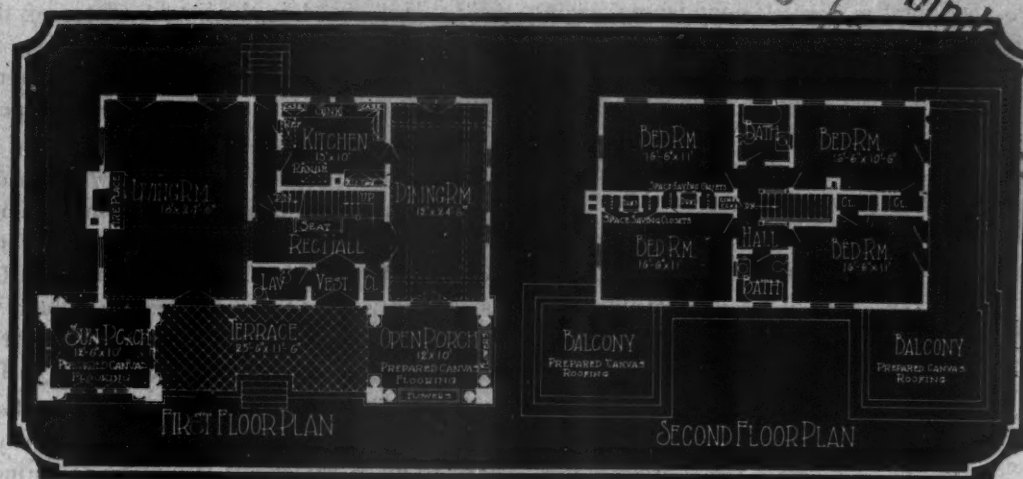
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BLUE RIBBON HOMES

The Library binds this Magazine

Please handle it with care

PRACTICAL
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ARTISTIC



DIGNIFIED, SPACIOUS RESIDENCE. There are pleasing lines vertically to this design, broken by the attractive French paned windows. Wide siding and the columns give a colonial and plantation air. The entrance terrace of brick or tile leads to the open columned porch at the right and the enclosed sun porch at the left. Within, a glass doored vestibule leads to the reception hall and staircase, giving a decorative touch. To the left is the living room with its fireplace. The dimensions are 18 feet by 24 feet 6 inches, and access is given to both the sun porch and the terrace. To the right of the reception hall is the dining room, 12 feet by 24 feet 6 inches, with unusually fine lighting. The kitchen is very compact, eliminating the pantry thru the use of improved closet space and shelving. Upstairs are four bedrooms and two bathrooms. A feature is the extra space-saving closet room provided in the left bedrooms. There are doors opening from the right bedrooms onto the balcony with its waterproof floor of canvas flooring. The proper paint combination for this would be cream yellow with white for the trimmings.

They All "See Mary"—and Buy

Youngest Builder in the World Only Mere Girl of Nineteen, But She Has Made Fashionable Hollywood Sit up and Take Notice

TWO years ago a girl from Texas found herself in Los Angeles with thirty dollars, the self-confidence of her seventeen years and an idea. The idea was to capitalize her self-confidence; a continuous, daily need; and other folks' natural curiosity. Almost overnight there sprang up neat signs; here, there, everywhere, they advertised property for sale. By whom?

"See Mary" the signs read, volunteering no further name information, but giving a finding address. So good was the curiosity-rousing power of the intriguing slogan, and so hard did "Mary" work to make good the purpose of the signs, that in six months the office she had opened as a temporary measure became too small for her increasing business.

She then began the erection of another office in the attractive Old English style on Santa Monica Boulevard. Success continued to follow the continued reiteration of the suggestion on the signs, "See Mary." In her own words, "everyone wanted to know who is 'Mary'; is it a man, an old maid, or what?"

Gradually this natural curiosity of her prospective

buying public coupled with her native initiative and salesmanship and hard work gave "Mary" an enviable position in the Los Angeles real estate and building field. Hollywood is the world center of the moving picture industry and those engaged in it. It was not an easy matter for a mere Miss in her 'teens to enter a field filled with long-established competitors, but "Mary" gradually won out in her ambition to list and sell the best property that Hollywood had to offer. Her latest office having become insufficient for her needs, "Mary" determined to give the locality a "lighthouse realty office to land people safely in Hollywood," as she terms it. Oddly designed, it lighted the way to more and more business. It is the busiest realty office and one of the most-visited show places in Hollywood.

"Mary's" business creed is to deal as she would be dealt by. She practices courtesy religiously and tries hard to make her clients feel at ease. "Find out what he has been accustomed to," and "never judge a man by his clothes" are cardinal principles with her. Without affecting mannish clothes, she finds it sensible and not unbusiness-like to wear the kind of daintily made



"Mary" Herself, Putting Up One of Her Property Selling Signs. Could any name be commoner than "Mary," and yet could anything be more original than this use of it? Stir's one's curiosity, does it not?

dresses she prefers. She believes it is possible to be as pleasant and agreeable over a set of blue prints as over a cup of tea.

Having nearly all Hollywood's saleable property listed in her office, and having recently closed one of the largest deals ever made on Hollywood Boulevard, "Mary" is proof that opportunity is no hard and fast affair. Nineteen years or ninety—it is all the same to the go-getter.



A **AMERICAN BUILDER** is the architect's, builder's and dealer's notebook of home structural ideas because it is the publication that would be read and appreciated by a thinker. And a thinker is a self-starter.



"Mary's" Present Headquarters. "A lighthouse realty office to land people safely in Hollywood" as she herself aptly terms it. "Original" barely begins to describe it, don't you think?

The Second Nesting

Well, Ma, I think now's 'bout the time
To see the 'Sociation;
Just primp a little like you used,—
You mustn't look 's if you're abused;
I want my wife a-lookin' fine,—
Want folks to know I'm glad she's mine.
Gosh, all those tears! Who's slackin' lime?
Hustle—the 'Sociation!

They have a pleasant sort o' crowd
Down at the 'Sociation.
"What will our new home cost?" Why, say,
Surely no more than we can pay!
It's been a tussle, but we're thru—
Yes, thru we are, and thanks to you—
A wife to make a husband proud
Up at the 'Sociation.

When we were young we had our fun—
Nary a 'Sociation.
Folks never know what's in the box
Life sends 'em; like as not, Hard Knocks!
Who'd ever think our family
Could grow and die—leave you and me
Without a roof, and life most done?
Bless that 'ere 'Sociation.

You'll like that meetin', wife o' mine,
Up to the 'Sociation.
We've worked and skimmed to just belong,
But love is steady, love is strong;
We'll have our home, like long ago—
Praise God, from Whom all blessings flow!
He made our buildin' loan come fine
Thru our own 'Sociation.

How do These Figures Fit in Your Locality?

FIGURES don't lie—that is axiomatic. An insurance man knows that out of a given number of people a certain percentage of them are live prospects and can be sold on insurance.

Here is what you could do. The Department of Commerce has issued a percentage table on Home Ownership which shows that approximately 37% of the people in a representative list of cities are homeowners. If you applied this to your city it might be stated in this way: about 35 out of every 100 families own their own homes. The rest rent their houses, live in hotels or apartments or share a house with the owner family.

Why not sit down and write out a list of 100 families that you know and see how this average works out? Out of the 65 families that should be prospects you should be able to secure some very good home-hungry people; enough, at least, to keep you busy on plans in connection with your other work.

A successful builder suggested this to us. He has used the main idea of it himself for some time, profitably. Think it over.

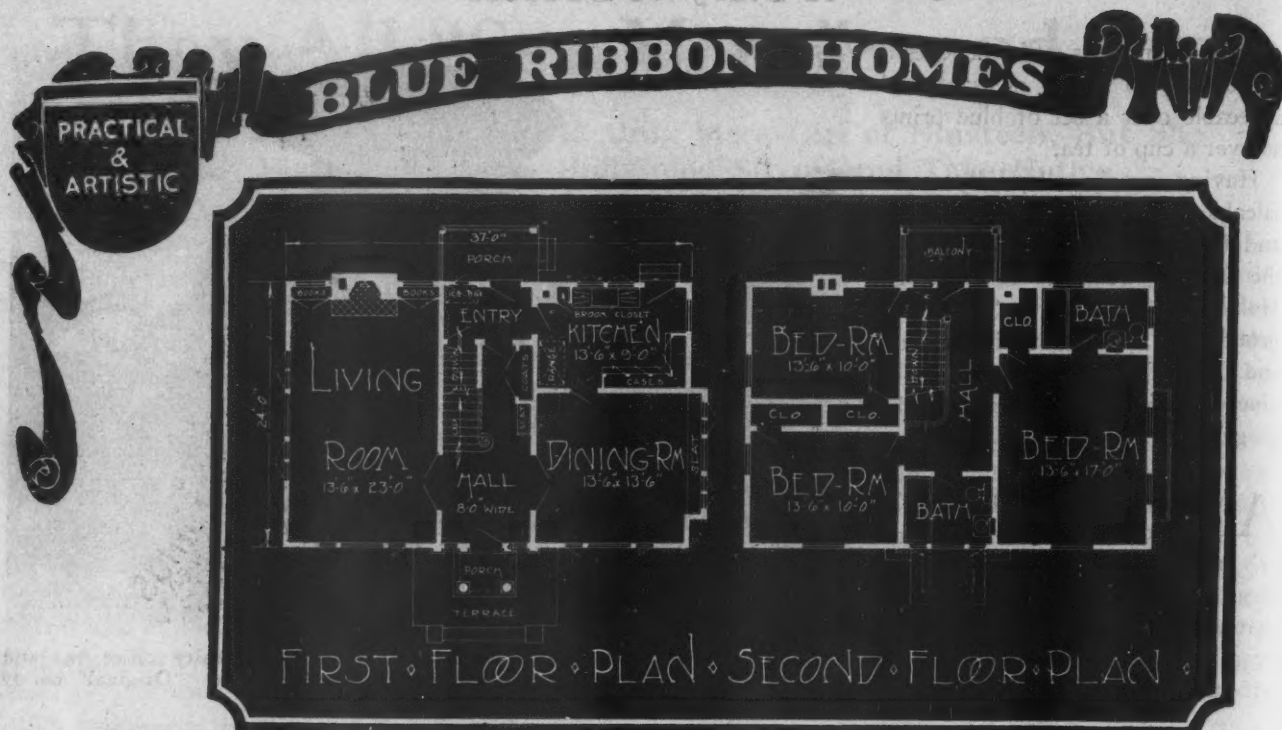


WHEN you are engaged on the construction of a building, did it ever occur to you to sit down and think: "Who else in this community would be prospects for such a building?"

And did you sit down that night and write them a nice personal letter, inviting them to let you take them thru that building as your guest?

Did it pay?

We'll say it did!

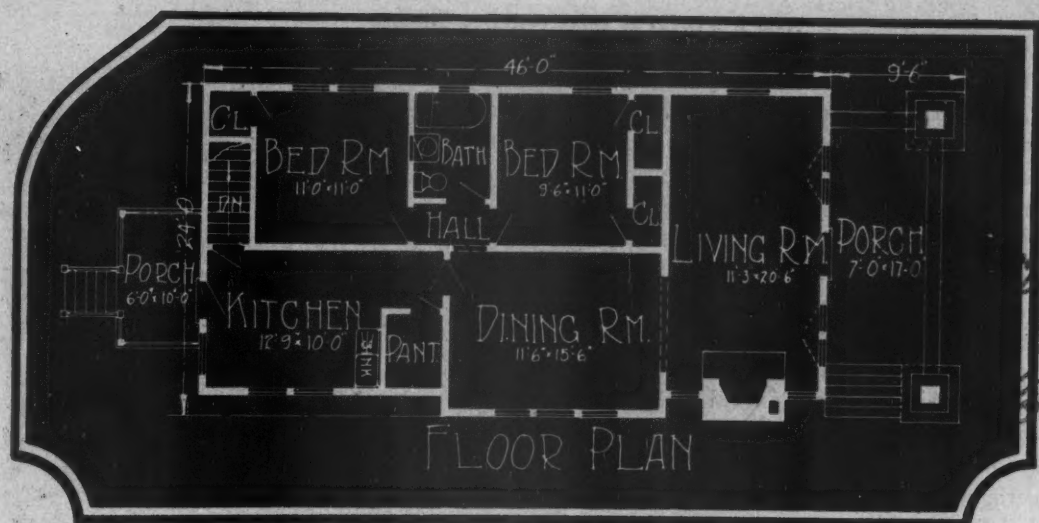


HANDSOME RESIDENCE WITH COLONIAL DETAIL. This pretentious dwelling, without being Colonial in intent, uses some of the features of that type of construction with good effect. The result is a pleasing, dignified impression, well suited to the commanding site on which it is erected. The preeminent feature is, of course, the handsomely proportioned doorway, which leads directly into a wide hall, open all the way to the rear and giving much decorative value to the staircase. To the left off the hall is the living room, 13 feet 6 inches by 23 feet, with fireplace and built-in bookcases and splendid lighting. To the right off the hall is the dining room, 13 feet 6 inches by 13 feet 6 inches, which is reached directly from the kitchen. The latter is 13 feet 6 inches by 9 feet, and is well arranged, with plentiful shelving, a window-lit sink and broom closet. Upstairs are three bedrooms, the master room being 13 feet 6 inches by 17 feet, and with its own bathroom. The other two rooms are served by their own bathroom. There is a balcony opening off the upper hall which holds possibilities as a sleeping porch. Dimensions over all are 37 feet by 24 feet.

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BLUE RIBBON HOMES

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binds this magazine
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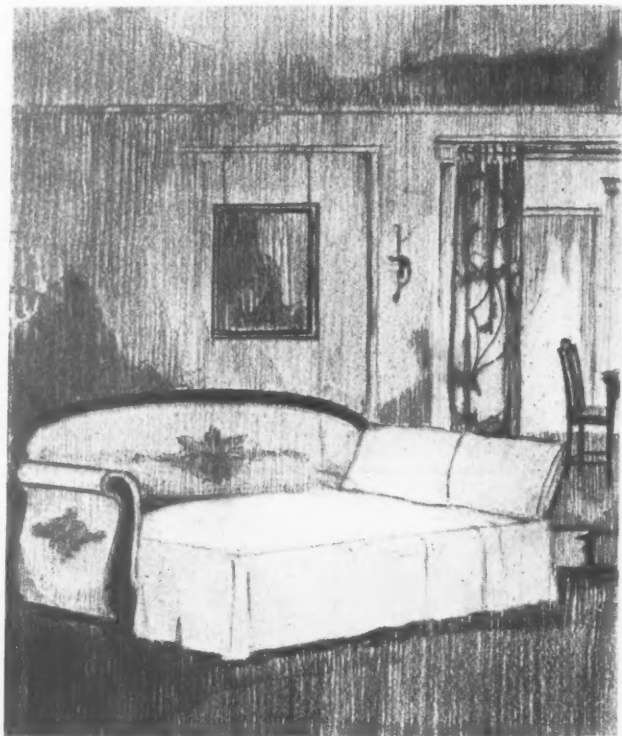
ATTRACTIVE STUCCO BUNGALOW. An inviting, roomy, recessed porch leads to the living room, 11 feet 3 inches by 20 feet 6 inches, with its fireplace and open colonnade, which leads thru and into the dining room, 11 feet 6 inches by 15 feet 6 inches. The latter room has three windows. Directly off it is the kitchen, 12 feet 9 inches by 10 feet, with a windowed pantry, placed between both rooms—a service feature many women appreciate. The kitchen opens onto a rear porch which could be screened in for a summer breakfast room. The bedrooms are two in number and have full privacy, being separated from the day rooms by a wall thru which a door opens from the dining room. The bedrooms are 11 feet by 11 feet and 9 feet 6 inches by 11 feet, respectively, and connect thru a connecting hall with the bathroom. While the porch columns have spreading stucco bases that give an effect of massiveness to the design, quite as good an effect could be obtained were the columns to extend to the rail coping, and the end lines of the porch extended downwards vertical instead of at an angle. This bungalow has attic space for an extra bedroom, storage room or playroom and the dimensions over all are 24 feet by 55 feet 6 inches.

The Modern Home and the Davenport Bed

By RANDOLPH BRANNER

THE people of the United States from one coast to the other, have been laboring for the last two or three years under a shortage of homes that for a time was very critical. The situation has been met with characteristic vigor by a period of building activity, probably unprecedented in history. The scope of the activity differs with localities, yet in spite of it the housing shortage is not over and perhaps will not be over for some little time to come. Just what the contributing causes are need not be gone into here. The truth is, that the housing shortage is still with us.

With the conditions that brought on the shortage of houses there was disclosed a new frame of mind on the part of the average American. Perhaps high rents have had a part in bringing the householder to a realization that the eight or ten room house of bygone days is not merely a burden, but a needless one. Perhaps the development of the apartment house has helped many to look upon extra rooms as needless expense. Whatever the reasons may be, the average American has turned very noticeably to the small home, whether it be apartment or house. The small home is not a passing fancy. It is a disclosure of the trend of the American mind toward the practical. While it is not altogether promoted by the idea of thrift, it does express thrift, and that in one sense is the trend of American thought today. There is, of course, the coziness of the small home to be considered, the greater intimacy with one's fireside and one's bookshelf. On the other hand, the American mind is practical. Floor

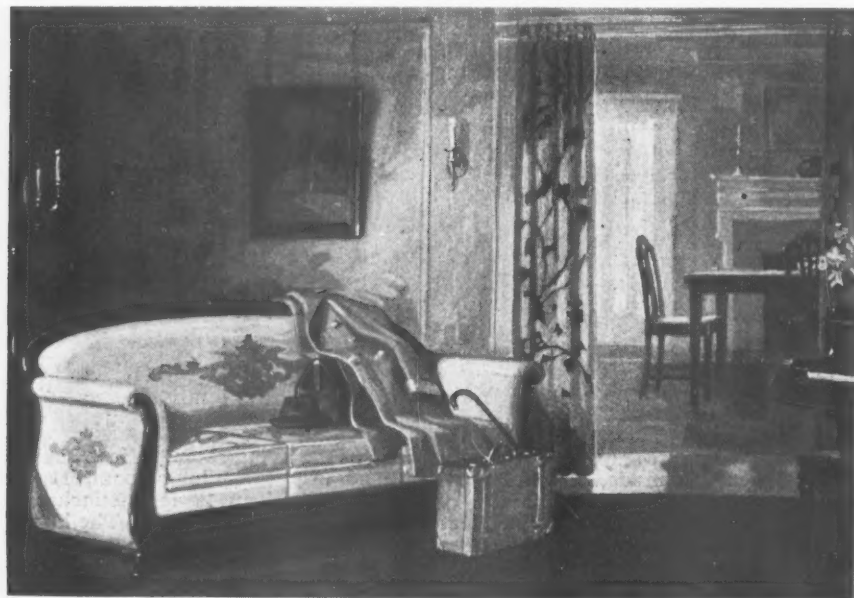


The Davenport Bed at Night. Architects and builders are calling these space-saving furniture ideas to the attention of their clients and it often solves the difficult building cost problem.

space costs money and people know it. The use of floor space, therefore, has become a matter of concern to a man in his home, as it has been for years in his business.

This idea has been carried beyond the mere number or dimension of rooms. Tempered with taste, this thought goes even into the furnishing of the home. People want fine furniture, but not wasteful. It is an underlying thought with most people today, even those who can indulge themselves in the luxury of a pretentious home.

It is a combination of many experiences that has brought the davenport bed into wide popularity among all classes of people. Its place in the living room has been established by years of use; its charming combination of beauty and utility have carried for it a place in the esteem of millions of people. Considering for a moment the practical side of it, the davenport bed



The Small Compact Home or Apartment Has No Guest Room, but When the Welcome Guest Arrives This Good Davenport Comes to the Rescue—as Pictured Above.

utilizes floor space to better advantage than any piece of furniture in the home, and simply because the davenport bed serves by day and by night. Twenty-four hours use of the same floor space is indeed a record that can be approached by no other piece of furniture in the home.

Harmony with the finest furnishings makes the davenport bed a desired piece by day, something to which a housewife points with pride. The beauty in the workmanship of the woodwork and in the luxuriousness of its upholstery, to say nothing of the elegance of the coverings in which it is to be had, give the davenport bed a place in the most tastefully appointed home. There is something of art in the accomplishment that makes it possible for such a fine piece of furniture to enclose and entirely conceal by day, the full size comfortable bed that serves so well by night.

The modern davenport bed is indeed an excellent example of art, to which science has added utility without the sacrifice of art. The recognition of this fact has become nation-wide—in the California bungalow on the Pacific Coast, in the village home throughout the great West, in the apartment house of the large city, in the country home that nestles in the hills or dots the shores of thousands of lakes and rivers, in the grand estates of those who have "arrived," the davenport bed is unquestionably admired and accepted for the service it gives. Designed to please a thousand tastes, the davenport bed harmonizes with every home.

The period styles in which it is made embrace Queen Anne, The Brothers Adam, Renaissance, Early English, Louis XV, Louis XVI, Chippendale, William and Mary, Georgian, Hepplewhite, Sheraton, Colonial, Tudor, Pompeian—the whole gamut of periods notable for the accomplishment of great artists, is run in the selection of davenport beds.

Fine handicraft is done full justice in the addition of the bed concealed within this remarkable piece of furniture. The bed itself is everything that comfort requires—ample width, ample length, with a full resilient spring that insures restfulness. The bed is simple; that is one of its chief claims to the consideration of the American housewife. There is no complicated mechanism to get out of order, no protruding parts that spell danger. It has been thought out with great care and represents a scientific

achievement as formidable as were the artistic achievements of the periods mentioned above. So simple indeed is the operation that brings the davenport bed from day to night use that a child can manage it. Such simplicity is not a part of all convertible furniture, but the development of the davenport bed is the result of years of experiment and research and progress. Indeed, the davenport bed is unlike convertible furniture in this important respect.

By day the mattress and bedding are completely contained in the davenport bed. There is not hint to the daytime caller of the double utility of the davenport bed. There is no disclosure of the fact that the same floor space is serving the full twenty-four hours; but the fact that the davenport bed does so, in spite of its complete concealment, is in reality a tribute to its masterful conception, and, in fact, to the desirability of this fine piece of furniture in the American home.

Contrary to what one might expect of so efficient a contrivance, the davenport bed is inexpensive. Its very simplicity has helped to make it so. The cost varies, of course, with the size and style selected.



Beauty Indoors and Beauty Outdoors Is the Great Appeal Today Toward Home Building.

Fire, the Modern Scavenger

How the Architect, Builder and the Manufacturer Advance Sanitation and Living Comfort by Offering Every Kitchen a Flue to Its Own Garbage Incinerator

THE sanitary disposition of garbage is one great factor in the health life of a town or city. On the farm getting rid of the table scraps is a mere matter of flinging them to Fido or Tabby, or the chickens and the hogs. But town and city life has drawn closer together; houses adjoin; people live in great apartment houses and hotels. Garbage removal has become a problem.

Passing of the Alley Garbage Can

It cannot be denied that the garbage can has condemned itself. The garbage collects in it by the alley or on the back porch; attracting flies, creating stinking odors, awaiting the filthy garbage wagon that never is on schedule. And it is not only actual food refuse that presents a problem. In the old days there were no "store" canned goods to speak of. The newspaper came weekly and when read did yeoman duty in the cleaning of the windows and the stove. Now, however, canned foods and bottled preserves and condiments are important items in the menu, and we read a dozen magazines and newspapers where before we read but one. All these clutter up house or apartment and create extra work. This is especially true of the small apartment; even if the garbage and refuse are removed regularly the daily call of the grimy garbage collector becomes a nuisance.

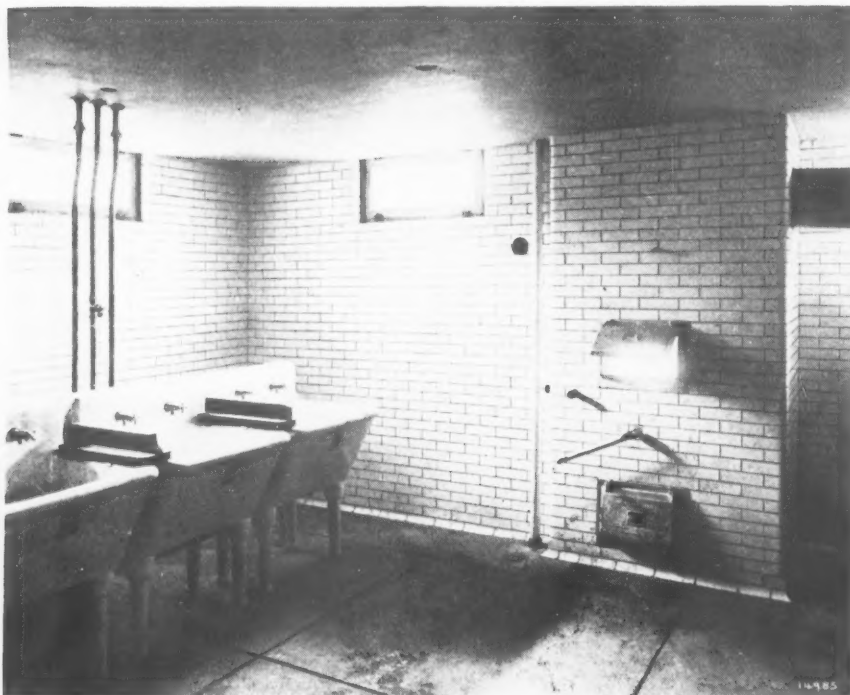
The Flue Route to the Incinerator

The architects and builders and the thinking minds

which co-operate with them in making the modern house or apartment so livable and convenient, with their usual foresight solved just this difficulty. As the foundations go in there also goes the base for a garbage incinerator, and upstairs in the kitchen wall appears a neat door above the work table or the kitchen sink. It is small and inconspicuous, but big and noticeable in the help it offers for the instant, cleanly disposition of all garbage, sweepings, tin cans and bottles, newspapers, magazines and rubbish of every descrip-



The Kitchen View of the Garbage Incinerator. A neat hopper door (always closed) admits to the flue.



The Built-in Garbage Incinerator as It Appears in the Basement.

tion, which constantly collects.

The garbage and other waste passes thru this hopper door and falls down the flue into the incinerator. The combustible matter burns; incombustible matter is removed by the janitor at intervals. No fuel expense is necessary, since the combustible waste dries out and ultimately consumes the garbage; a match starts it. The fire burns downward, consuming offensive odors and effecting complete combustion.

What Every Woman Knows—Garbage Gone, Work Half Done

"Doing the dishes" is an easy task with garbage out of the way. The dishes are cleaned off into the hopper, or onto a piece of paper and then, presto! into the hopper and forgotten. As more and more women are becoming familiar with this suprisingly simple way of easing their tasks, they are looking to see that it is installed in the house or apartment they are to own or rent. It answers a question they have always asked and are glad to find answered.

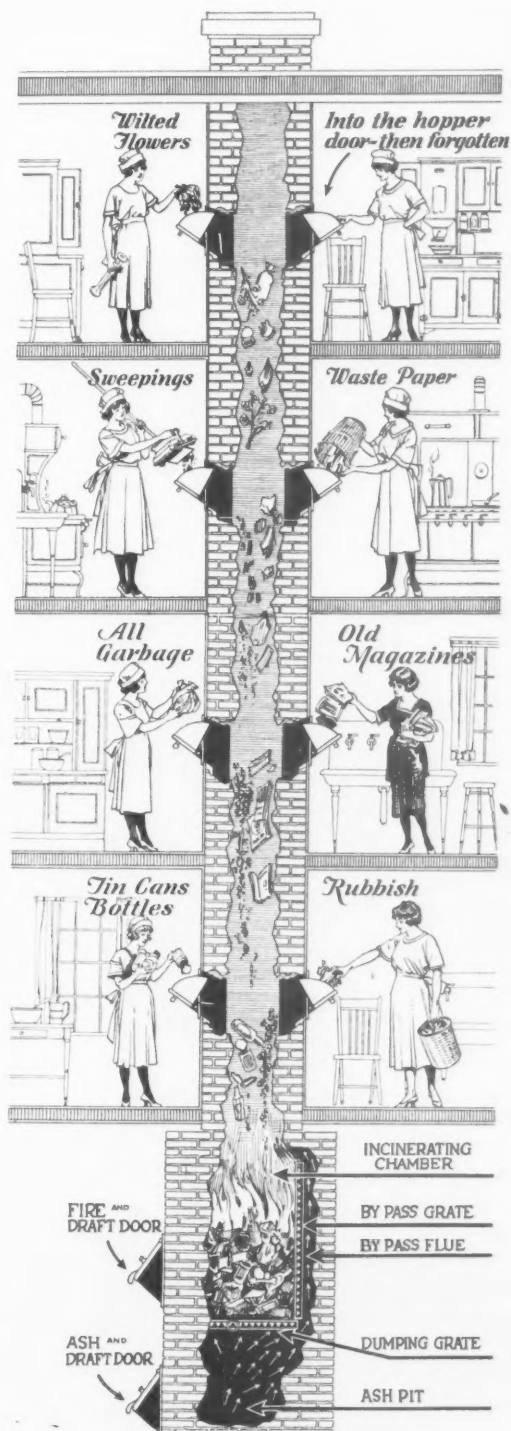


Diagram of 4-Story Apartment Building, Indicating the Variety of Ways the Incinerator Is Used by Housekeepers on All Floors.

Garbage Disposal a Task by Itself

Proper garbage disposal requires attention on its own account. It is a mistake to assume garbage can be disposed of in the regular furnace or boiler heating unit. It may put the fire out. Furthermore, the advent of oil and gas heating makes this method of burning garbage more impracticable. The garbage incinerator is important as a sanitary measure. Besides garbage is slow burning and has low heating value. A well installed flue incinerator consumes garbage thoroly and efficiently without any operating expense.

Some cities demand incineration, notably among them St. Paul, Minn., and many others are now framing ordinances of a like kind.



Towns Troubled with Roots Should Be Interested

MANY towns are put to heavy expense by roots creeping into the joints of the sewer pipes. This is especially true where the shade trees are old, thrifty, and beautiful. To destroy the trees is to mar the beauty of many residence sections, and to keep digging up the streets is expensive and exceedingly troublesome. Soft wood trees give a great deal of annoyance in this way and not only are town governments often perplexed with the problem but individuals are put to much work and inconvenience in the same manner.

The town of Canton, St. Lawrence County, New York, has suffered particularly from roots creeping into the sewer pipes, and is investing as town property in a turbine sewer cleaning device made in Milwaukee. This operates in a simple manner and obviates the necessity for the digging up of streets and lawns. The expense, which is somewhere around \$1,500, is taken care of in a satisfactory manner by bonding and the town anticipates a marked lessening of the continual digging up of improved property.

The operator enters a manhole and by means of a system of leverages forces a rod link by link thru the sewer onward to the next manhole. This rod is then drawn thru the sewer, trailing after it a stout, steel cable to the end of which is attached a nozzle. In the mouth of the nozzle is a set of sharp knives, revolved by a small turbine located in the nozzle. To the nozzle is attached a hose, which in turn is attached to a hydrant.

The knives whirl and cut and tear anything in the way, trimming out the inside of the sewer pipe so as to leave it clean and free. If for any reason the knives clog, the cable is slackened up a little. The force of the water is used to drive the nozzle back, when it once more goes ahead and attacks the obstruction. The water now either washes the pieces of root loose ahead of the knives, carrying them down the sewer and into the outlet, or washes them back along the line of the hose. The great tangle and mass of roots brought out by this device is remarkable, and the plan is much simpler and in the end much cheaper than the old one of digging and digging and then digging some more.

One of the methods possible in the working out of municipal economy is investment in co-operative apparatus for the benefit of all and a machine of this kind is at least well worth investigation and a thoro demonstration and try-out. Many of our villages, towns and cities are beautiful with shade trees and we cannot afford to sacrifice these for it takes a long time for a tree to grow and to mature.

LESTER G. HERBERT.

ARCHITECTURAL DRAWING



Plans, Elevations and Perspectives

The Fifth of a Series of Articles of Great Practical Value to Builders

By M. K. TEACH

Instructor in Architectural Drawing, Bradley Polytechnic Institute

THE drawings which an architect first makes in designing a building for a client are known as preliminary sketches. They may or may not be drawn to scale for usually in these drawings only the proportions are watched. Then when the designer gets his thoughts down on paper and makes a few



Fig. 1.

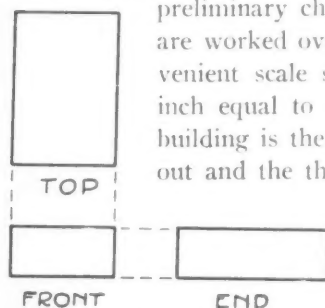


Fig. 2.

preliminary changes these same sketches are worked over and made to some convenient scale such as $\frac{1}{8}$, $\frac{1}{16}$ or $\frac{1}{32}$ inch equal to 1 foot. The plan of the building is the first sketch to be worked out and the thickness of walls is at this time neglected. It must be kept in mind, however, that the exterior views, that is the elevations of the structure,

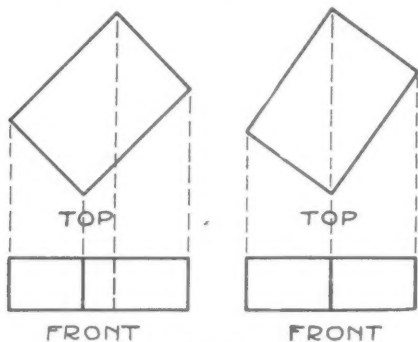


Fig. 3.

have a great deal to do toward determining parts of the plan, especially such points as the location of windows,

style of building and room sizes but it is invariably a poor sketch. When this is presented by the client the draftsman should also be informed of such things as the money the client wishes to spend, the shape and size of the lot, the unevenness of the ground, the direction the building is to face, the location and surroundings, and other needs and preferences of the client which are not readily put on drawings.

After preliminary sketches of both plans and elevations are satisfactorily worked out, a pictorial drawing of the exterior is often made, usually in perspective. This is nearly always rendered

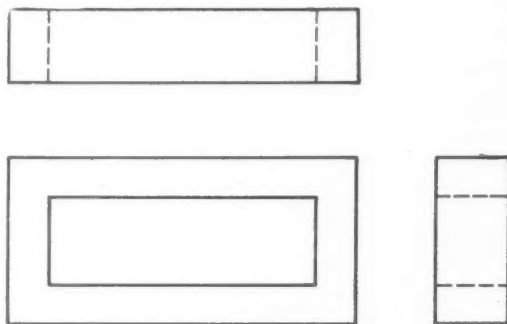
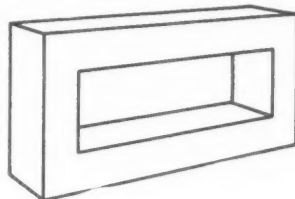


Fig. 4.

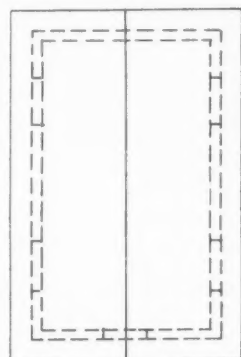
in color and presented to the client for study and they are far more easily understood by the average person than are working drawings. To the builder, however, the architect conveys his ideas by working drawings which contain full dimensions and notes. These working drawings are drawn up to scale on the principles of orthographic projection.

Simple or orthographic projection solves the problem of representing on a sheet of paper having two dimensions, length and breadth, the three dimensions of the building under consideration. In other words, all three dimensions, length, width and height of the building, must show on the drawing in their true lengths.

Figure 1 shows a rectangular block, one of the simplest of objects to draw. The illustration is a pictorial drawing and no dimensions could be scaled from it. Now suppose this object be placed on a horizontal plane, such as a table top, and viewed by a person whose eye at the time was on a level with the object. The object would now appear as a rectangle and it would



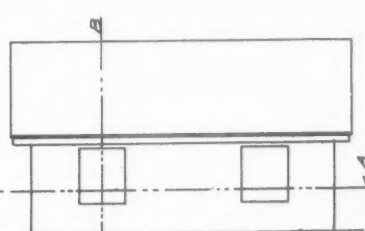
Fig. 5.



TOP



FRONT



SIDE

Fig. 6.

be known as a front view, or in the case of a building, it would be known as a front elevation. Now by looking straight down on top of the block we get a top view, which in the case of a building would be a plan of the roof. A third drawing is now made as if looking at the end of the block. These three drawings would be arranged on the paper

as in Figure 2 and are commonly called front, top and end or profile views. In the case of simple problems, only two views need be made, such as front and top or front and profile. A good rule to follow is to never make a third view unless absolutely necessary for obtaining clearness of the drawing or for dimensioning purposes. It may now be noted that this is only one of innumerable positions in which this block might be placed or drawn. Two more typical positions for it are shown in Figure 3.

Let us now consider a more complicated object as in Figure 4. This is shown by pictorial drawing first and then by the orthographic projection of it, that is, the top, front and profile views. It is well for the student to study this problem over until he fully understands it.

The architectural draftsman in making the working drawings of a building varies a few points of the previous discussion. These will now be noted but

should not be considered until the principles of orthographic projection have been mastered. It must be remembered, however, that the fundamental principles do not change as is seen in Figure 6 where are illustrated the three views (top, front and side) of the building of Figure 5. This drawing is only a bare outline to illustrate the point, not a finished working drawing of the building. Now if one imagine this building cut thru parallel to the ground, and the upper part removed as in Figure 7A, and then draw what is seen when looking straight down on the remainder, we get what is known as a "Floor plan" as in Figure 7B. In other words, a floor plan is nothing more than a horizontal section, cutting the walls and partitions at a distance of a few feet above the floor and varying so as to best show the construction or interior arrangement.



Fig. 7B.

The position of this horizontal plane is shown along the line "A-A" of Figure 6. It is evident, however, that this cut must cross all openings no matter what height they are from the floor.

A section or sectional view is an interior view on a vertical cutting plane such as along the line "B-B" of Figure 6. Like the plan, this section may be taken at various planes so as to include as much information as possible.

It is usually necessary to make some larger scale detail drawings of certain parts of a building giving a more complete description of the construction or design of these parts. These details, however, are drawn up according to the principles of orthographic projections previously discussed and need no further explanation at this time.

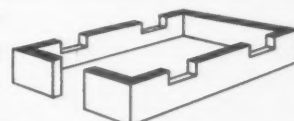


Fig. 7A.

An architect or architectural draftsman uses three means; (plans, elevations and sections) to represent a building or part of building on working drawings. This must be kept in mind by the student and these principles clearly understood before he goes any farther with the work.



THE Government now pays out in rentals for various departments and bureaus \$20,830,193. To offset this there has been scheduled a building program for Federal and Post-office buildings to cost \$37,467,000.

Of this amount the distribution will be, to Arkansas, \$1,050,000; Connecticut, \$2,945,000; Illinois, \$2,095,000; Indiana, \$3,205,000; Massachusetts, \$2,325,000; Michigan, \$1,320,000; New Jersey, \$1,150,000; New York, \$4,415,000; North Carolina, \$1,060,000; Ohio, \$2,498,000; Virginia, \$1,045,000; Pennsylvania, \$3,029,000; and Wisconsin, \$1,350,000. Other states will receive lesser amounts.

"What Will It Cost?"

THIS is the first question you will hear from a prospect after he definitely commits himself to the building of a house. What are you going to answer when they ask "What will it cost?"

We are thinking of one builder who comes to mind—a young fellow who has enough inherent salesmanship to enable him to get the prospect to put his finger down upon the design of exactly the kind of a house he wishes to build. The interviewer ends right there, with a few inconsequential remarks about anything in particular; the man's family, local prospects, anything except the house itself.

But a few weeks later that builder drops in on his prospect again. He has been busy in the meantime. Now he knows to a dollar what that house is going to cost, put up at that time, in that particular locality. He gets right down to business.

"Well, Mr. Jones," he begins, "I've got your house all figured out for you. Can you spare me a minute?" Before the prospect has time to say yes or no our young builder has taken out the plan of the very house the prospect was most interested in. "That house, Mr. Jones, will cost you only \$5,000 as put up."

At last the prospect hears a definite answer to something that has been in his own mind for some days. He is undeniably interested. The price sounds really reasonable; he thought it might have cost much more.

"I have gone over my estimate very carefully, Mr. Jones," goes on the builder, "and you can rely on its being dependable. I have figured on the very best material and first class work. I have included that pergola you thought you would like to have as an eye-break between the house and the garage. If you want frame or brick instead of stucco it will cost you so much" (he names the different figures). Then he plays his trump card.

"Mr. Jones, you told me the other day you had so-and-so much money in the bank that you and your wife intended to apply on a house. Do you mind if we call on her with this plan and estimate? I have put in some built-in kitchen work savers here that I think she would like to see."

Our builder has succeeded in doing a very important thing. He now has the two people together, both of whom are necessary if he is to go ahead with the house. He has the plan before him, showing the

woman the features that she will appreciate, and securing the man's approbation of them; he shows the man the things he has done with the plan to meet the man's particular ideas and requirements.

He is a very successful man, that young builder, and will go far.

But, you ask, don't the people resent it—his forcing them that way?

Well, no, they don't. A little hesitation is natural and even desirable when people ponder the building of a house. It is an important step. But given the kind of house plan that appeals to them and a builder who is agreeable and tactful and strives to learn their viewpoint—and who knows his business—who would not feel thankful for the "push" that put them in possession of what they always wanted? That's home-building.



Many New Activities Planned by National Slate Association

SLATE with its mellow gradations from light gray to soft red makes a roofing that adds character and permanence to

many skylines. Yet there is a marked and increasing demand for it in other fields. These utilize it in connection with sanitary, electrical and educational equipment, and in many manufacturing processes it finds use in the shape of granules and slate powder.

It is because of the ever-increasing many ramifications in the use of slate that the leaders in this, one of the oldest and most conservative of the country's industries, gathered in New York for their Association's first annual convention, Jan. 22 and 23, 1923. The Drexel Building, Philadelphia, Pa., was chosen as the site of headquarters offices, to establish a definite source and responsibility for slate information, and to stimulate the sale of slate by bringing its properties to public attention. Active co-operation will be carried on with the architect, builder and dealer, with a view toward the wider use of slate. A code of ethics was likewise adopted, to standardize practice within the industry.

Warner S. Hays is the secretary of the National Slate Association, and will have charge of the publicity campaign to be undertaken by the Association.



For the Home

GOOD builders are not just satisfied to build the walls and roof and call it a home, but are competent advisers on home equipment and niceties. Listening to them is bound to add usefulness to the home structure.



The Modern White Enamel Kitchen Is What the Women Want.

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Leaders of the Slate Industry

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Those in Attendance at National Slate Association Convention, New York, N. Y., Jan. 22nd and 23rd, 1923. Left to right: Messrs. L. Hamm, H. Hamm, Keenan, Lundy, Seabrook, Radcliff, Dabbs, Fletcher, C. Jackson, Smith, Owens, Depew, Blaisdell, Bray, Moore, Steuber, Allen, Johnson, Lewis, Kirtland, Kelly, Kern.



Left to Right: Seabrook, Dr. Bowles, Mershon, Miller, Blake, M. Emack, A. E. Jacobs, J. Emack, Hazen, Barker, Morrow, Holden, Robinson, Boyd, Hassenpflug, Thomas, Oakley, (kneeling) H. Thompson.



Left to Right, Standing: Messrs. Lowery, Glen, Jackson, Plotnick, Seager, Lake, Able, Herman, Albert, Ribble, A. B. Warner, Kiddo, Hehn, Snyder, Masters, Parsons, Radcliff (again), R. D. Chapman, Norton, Mershon, Doney, Hahn, Male, Dabbs (again), Shelden. Left to right, kneeling: Heller, Solt, Vanadia, H. Chapman, Koch, Hutchison, Brown, Fell.

Keep Stock Pile Ahead of Sales

In Which is Related the Story of a Well Stocked Yard Which Sold
75,000 Concrete Block

By A. J. R. CURTIS

The first of a series of articles on successful marketing of concrete products, written especially for the AMERICAN BUILDER.

EDITOR'S NOTE: (Of fifteen typical concrete products factories visited recently by a writer for AMERICAN BUILDER, eight were showing neat balances on the right side of the ledger; three broke even and four confessed they were in the red. Seven of the eight successful manufacturers habitually carry substantial stocks—usually exceeding two months' operating capacity, except in the height of the season. Of the four plants obviously on the down grade, not one could show a respectable stock pile!)

IN the manufacture of concrete building products there is a direct relation between prosperity and the size of the stock on hand. It takes two weeks to a month to make concrete block and give them proper moist-curing; many a manufacturer has seemed to regard as an adequate stock pile a two weeks' run of block going thru the various stages of curing. While there are no mechanical reasons for not placing block in the work just as soon as they have acquired the prescribed standard strengths, the manufacturer who does so confesses that he is without reserve capacity and operates like a gasoline engine without a flywheel. Something happens at the plant and there is just one

result—disappointed customers. Competitors find such a manufacturer easy picking.

Selling almost any kind of building material today is largely a matter of giving service. Marketing concrete block is no exception. In localities where concrete block is still looked down upon because of its past, many block have been sold largely because they could be delivered immediately to meet an emergency. Materials from a distance might keep operations waiting. Time saving service always appeals to the contractor, who recognizes it as about the only means by which he can swell his returns or blot out a deficit.

A Concrete Example

One day last summer L. A. Goodwin, secretary of the Concrete Specialties Co., cinder concrete block manufacturers at Camden, N. J., went to see the prospective builder of some attractive houses. Mr. Goodwin found that his product hadn't even been considered. The prospect was somewhat obdurate, or "hard-boiled" as we say in the vernacular. He had no objection to the material, but was endeavoring to close the interview. Lacking an objection but looking for a way out, the prospective customer asked how many



Partial View of a Stock Pile That Sold 75,000 Concrete Block. How the Concrete Specialties Co., Camden, N. J., is depending on its stock pile to increase the sale of Straub type cinder block is told in the accompanying article.



Typical of a Large Number of High Class Concrete Residences in Camden and Vicinity in Which Block from the Stock Pile of the Concrete Specialties Co. Are Used. This is a view showing block walls before cement stucco is applied.

block his work would require. "Seventy-five thousand five hundred," replied Mr. Goodwin, who is a snappy mental mathematician.

The prospect saw his "out." "There aren't that many block in New Jersey. Where and when're you going to make 'em? We've got to have material at once, and lots of it. Maybe we'll use a few block in our foundations if you can supply 'em."

"Listen," said Mr. Goodwin. "You've got us all wrong. Our middle name is Service. Step into my machine so I can show you our stock pile. We have 76,000 block on hand ready for shipment today—right now. Tomorrow our trucking contractors can deliver up to 10,000 anywhere within miles of Camden. If you need 'em faster, we'll truck all night. What do you say?"

The prospect became a customer. The great stock pile at the plant of the Concrete Specialties Co. was irresistible. Other customers were attracted similarly and most of these have become regular users. Backed up by an adequate stock the sales of the block factory have continued to swell—leaping to over 100,000 per month—with scores of houses now under construction and the factory working at full capacity thruout the winter season.

Great Factory Doubling in Winter

Accompanying views show some typical uses to which Mr. Goodwin's product is being put. Almost every job has been sold on the strength of his ability-to-deliver

policy. The common remark by block manufacturers, "I'm selling all the block I can make" isn't permitted in the ranks of the Concrete Specialties Co. Demands may increase and intensive sales efforts will be used, but the stock pile will do its best to keep ahead of them. The extent to which the company believes in this doctrine may be judged from the fact that right now, in mid-winter, a new plant unit is being placed in service, doubling present capacity!

Faith in the effectiveness of the stock pile as powerful aid to sales has plenty of material evidence to back it up. The first of the two accompanying diagrams indicates the rate of manufacture, rate of shipments and volume of stock on hand for a factory with a maximum

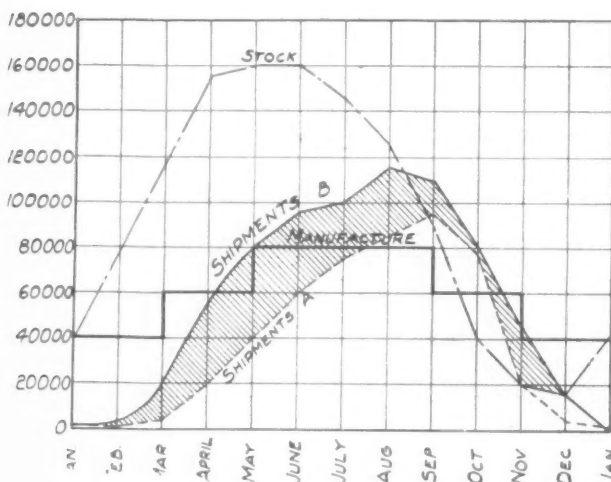
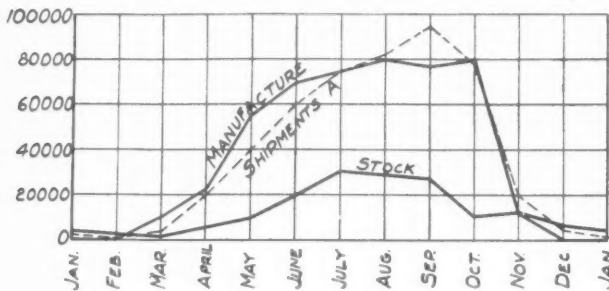
productive capacity of 83,000 block per month. Manufacture was at an irregular rate and barely kept up with shipments. The stock on hand was too small to care for chance or emergency orders of any consequence. A year later the same factory operating under new management reduced costs considerably by manufacturing at a uniform fixed capacity, nominally 60,000 block per month. During the four winter months the rate was reduced to 40,000 per month, relatively more storage space being required during cold weather. Similarly, the capacity was increased to a uniform rate of 80,000 block per month, during the four months' maximum shipping period. This is shown on the second diagram.



The Finished Residence as It Looked After Stucco Was Applied Over the Concrete Block as Shown in the Upper Photograph.

The annual output was raised from 500,000 to 720,000 block without adding any new equipment or facilities. The additional 220,000 block were sold in the early part of the season and during the height of the building material demand, which means that this additional business may be largely attributed to the stock manufactured early and made available for chance orders.

Additional profits to the stockholders amounted to over \$10,000, while the additional funds required to continue operations during the winter and build up the stock were borrowed from the bank as required,



The Upper Diagram Shows the Production, Shipments and Volume of Stock of a Concrete Block Factory Selling 500,000 Block Annually, as They Appear for the Last Year's Operation Under Old Management; the Lower View Shows How 720,000 Blocks Were Made with the Same Equipment, Stock Was Increased and Sales Jumped 220,000 Above the Previous Year, as Shown by the Shaded Area.

involving an outlay in interest of less than \$500. The work could have been handled equally well by increasing capital by \$15,000, but the directors considered it better business to borrow the money.

Plenty More Cases

It is a significant fact that fully 80 per cent of the concrete block manufactured in the United States are produced in 20 per cent of the plants. And only about 20 per cent of the plants—practically the same in make-up as the 20 per cent previously mentioned—maintain adequate stocks. Several manufacturers—like the Concrete Specialties Co.—jumped into the heavy producers class during 1922. Practically all of them carry sizable stocks and attribute no small part of their suc-

cess to the fact that they are always in a position to promptly care for emergency orders.

(The second article of the series points out the value of advertising in selling concrete products, illustrated with reproductions of some advertising copy that has "brought home the bacon.")



Legal Dont's

DON'T USE INDISCREET expressions in a business letter. It might be the basis of a libel suit.

Don't overlook the fact that letters are better evidence than oral conversations. Be careful what you write.

Don't threaten bodily injury.

Don't assume legal responsibility for your employer.

Don't threaten to sue for a just debt. Let your attorney do the threatening.

Don't accept an agent as having unlimited authority. There is usually a limitation.

Don't authorize one to act as your agent when you are not authorized to do such an act yourself.

Don't accept verbal conditions to a written instrument. They are invalid.

Don't endeavor to break or delay a contract of your competitor.

Don't misrepresent your competitor's merchandise or business.

Don't sign a contract unless you intend to fulfill it.

Don't endorse promissory notes unless you are prepared to pay them.

Don't fail to fill your income tax return or pay the tax when due.

Don't defraud the government or any other person. Eventually it will be discovered.



How Tact Saved the Day

THE rigid, but inevitable, requirements set by state and local educational authorities may seem to handicap the designer of a school building and offer as a solution only a stupid massing of windows and an exterior with no architectural distinction. That a little diplomacy on the part of the architect goes far is proven by a case where a board of education took exception to round-headed windows a school architect had designed for the east and west sides of a certain school. It was a design taken from the Georgian or Colonial period, and round-headed windows were imperative if the finished building was to have any character at all. The diplomatic architect finally convinced the board that not only did his design of window give all the lighting area prescribed in the stipulation for square-headed windows, but also the additional area contained in round-headed windows. He saved his design and got the round-topped windows, and the city secured a building architecturally complete and beautiful; one calculated to make the best sort of impression upon the attending children in their important, formative years.



Elements of Economic Design

By J. F. MANGOLD

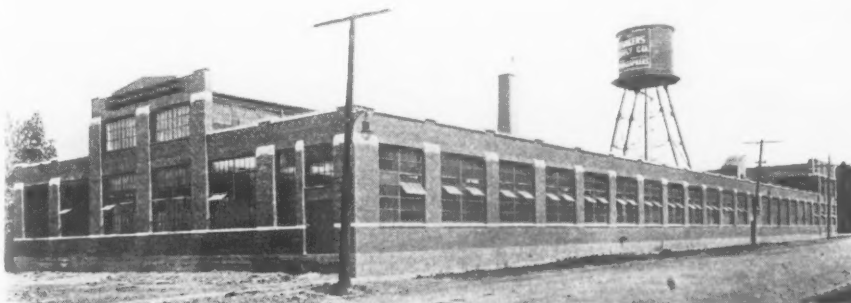
Associate Professor of Mechanics, Armour Institute of Technology

IN this article we shall try to outline to some extent a number of the principles which enter into the making of an economical design for a building. The reader, no doubt, together with the writer, has had some interest in securing a good design, and possibly we have both tried to find some written material which would aid us in going straight to the heart of our problem. Our common experience is that there is little written which may be definitely applied as formulas, and as a whole it is rather disappointing to find so little exact data. The explanation for this lack of very definite data lies in the fact that the problem of design as a whole must be worked out by trial. There are a great many practical factors which must be taken into account and therefore it is impossible to express economical design entirely in terms of formulas.

Factors in Design.—Briefly, we may state some factors in design as follows: the purpose of the building; the shape of the ground plan; the number of stories; the spacing of columns; the distance between floors and the proper proportions of concrete beams. First,

with regard to the purpose of the building, it may be intended for light or heavy manufacturing, or as a warehouse for either light or heavy goods or for any one of a large number of purposes. Upon this purpose depends the arrangement of the interior. If manufacturing is intended, there will be a certain grouping of machinery which will occupy definite space, and the arrangement of columns, beams and girders must be such as not to interfere with the placing of the machinery or its later operation. The building may be considered as a part of the machinery. If the design is for an office building, then the proper division of the floor space into offices will determine the spacing of columns. In any design uniform dimensions should be sought, so as to simplify the construction.

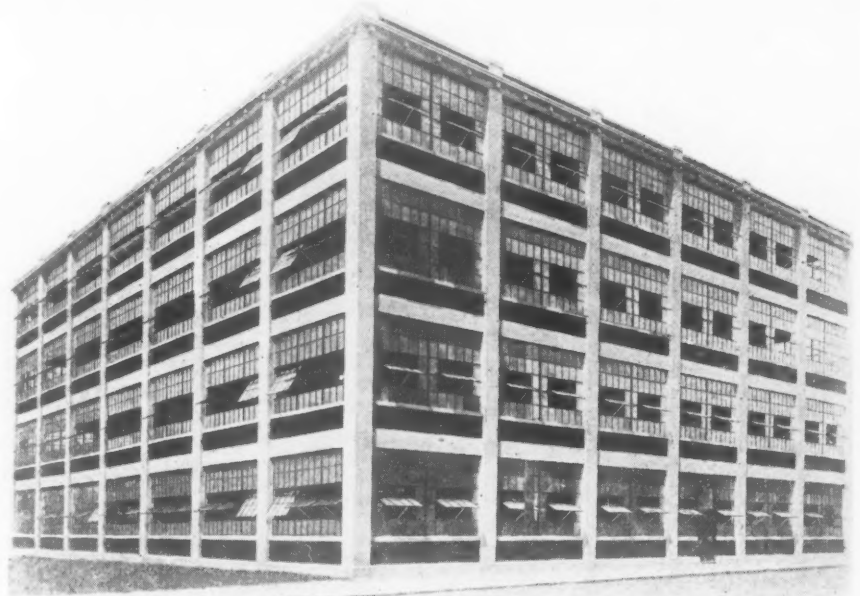
In the case of a warehouse most of the columns could be spaced regularly so as to form a large number of floor panels of the same size. The question will be: What will be the best size of panel? Suppose that the dimensions of the building could be 200 feet by 150 feet. Ten panels in each direction could be laid out. Then the column spacing would be 15 feet in one direction and 20 feet in the other. Our panels would then be 15 feet by 20 feet. Smaller panels could be used, with the result that more columns would be needed, but the beams and girders could be lighter due to shorter spans. In a case like this the only practical way to work out the size of panels is to assume a number of possible spacings for the columns, and then com-



Under Certain Conditions of Site, Nature of Occupancy, Etc., the One Story Monitor Type Building Is Most Desirable.

pute the quantities required in each arrangement. Such a procedure would be followed whether the construction were of wood, steel or concrete. The reader can see that purely on this basis we could find an arrangement giving a fairly minimum amount of material. In the case of concrete, the variation in the amount of form work required complicates the problem, since with smaller panels, more columns, beams and girders of smaller cross-section are needed. The best arrangement is the one in which the cost of steel plus cost of concrete plus the variable construction cost is a minimum. This actual cost must be determined by trial computations.

Another important factor in building design has reference to the number of stories. For instance, in the case of the factory: Shall the work be done on one floor or on several floors? In heavy manufacturing where heavy machinery and heavy materials are used, there may be no choice about the number of floors, since all heavy pieces must, as a rule, stand on the ground. The size and weight of the machinery and products would prohibit their handling except on the ground floor. Generally, shop work can be done best on one floor at a saving of from 5% to 15% less than the cost if the work is done on several floors. But a single-story building would cover a large ground area and involve much expense for land. It therefore becomes necessary to note the cost of producing on several floors and balance this against the saving of ground area, which would result if a building with a number of stories were constructed. It can be shown from comparative designs that where a number of

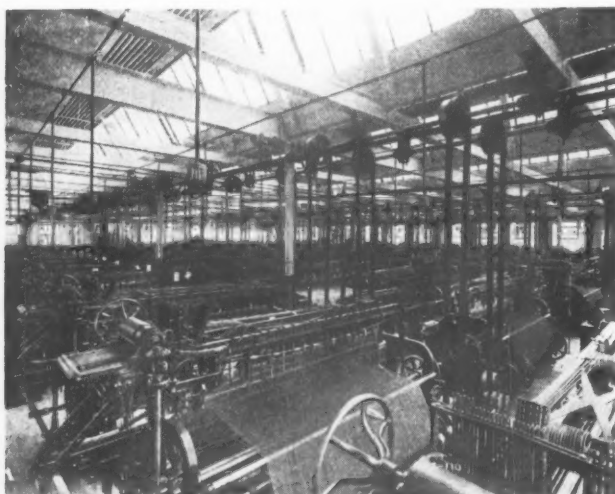


Under Other Conditions the Multi-Story Factory Building of Concrete Is Recommended by the Designing Engineers.

stories may be used, it is economical to use not less than three stories. This would affect a saving of 15% or more per square foot of floor area as compared with the building having the same floor area on a single floor. The distance between floors will depend on the clearance required in handling the material and in placing and operating the machinery.

It may be noted that the walls of a building form an important item of the total cost. If the ground plan of the building could be square, then a minimum length of wall would house a maximum area as compared with a rectangle. For example, if a building had a ground plan of 50 feet by 200 feet, it would require two 50-foot end walls and two 200-foot side walls. The area enclosed by the walls is 50 feet by 200 feet, or 10,000 square feet. This space could be doubled by extending the end walls without any additional expense for side walls. In the usual case the size and shape of ground available is fixed and the building must cover this area.

Beam Analysis.—With the foregoing general principles indicated, we now proceed to a more intimate analysis of the proportions of the concrete beam. The cost of concrete beams will vary with the proportions of width to depth and to the unit stresses adopted for the material. Using a notation as follows: c = cost of concrete per unit volume; p = ratio of steel area to concrete area; r = ratio of cost of steel to cost of concrete per unit volume; k = cost of beam per unit of length. Then $k = c(bd + rpbd) = cbd(1 + rp)$. From a previous formula in the design of beam, we have $\frac{f_c k j b d^2}{2} = M$. Solving this for $bd^2 = \frac{M/f_c k j}{2} = M/R$. Where R is used to designate the quantity $\left(\frac{f_c k j}{2}\right)$ and may be called the coefficient of strength



When Machinery Is to Be Housed It Is Customary to Lay Out the Machines First and Then—So to Speak—Build the Structure Around Them.

FREE Offer to Contractors

Fill out and mail the attached coupon for a pint of Johnson's Floor Varnish free and all charges prepaid. There is no obligation whatever connected with this offer. All we ask you to do is test it out in comparison with the brand you are at present using.

S. C. JOHNSON & SON, Dept. A.B.-3, RACINE, WIS.
Please send me free, all charges prepaid, one pint of Johnson's Floor Varnish. I will test it and report results to you.

Name.....

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I Buy Varnish from.....
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JOHNSON'S FLOOR VARNISH

You know Johnson's Floor Wax—it's used all over the civilized world for polishing hard and soft wood floors. We want you to know Johnson's Floor Varnish, too. Our Varnish is just as good as our Wax. Johnson's Floor Varnish is easy to apply and has good body. It dries free from dust in two hours, and hard over night—gives a beautiful, high gloss which will not chip, check, mar, blister or scratch white—has great elasticity—is very pale in color—and waterproof. Johnson's Floor Varnish is a splendid all-purpose varnish. Use it not only for floors, but for trim and furniture. May be rubbed if desired.

"Made to Walk On"

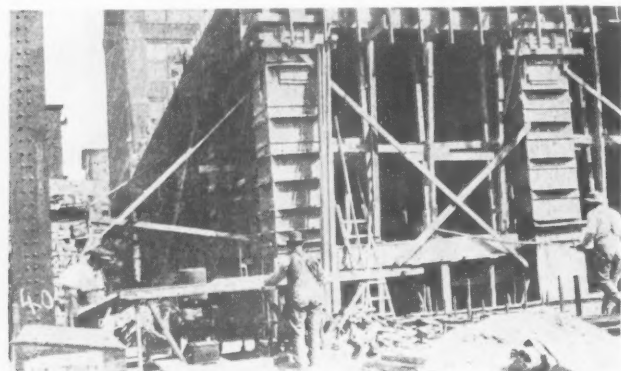
Johnson's Floor Varnish is tough, elastic and durable. It gives a beautiful, high gloss which will not chip, check, mar, blister or scratch white. It is very pale in color so can be used on the lightest floors and linoleums.



Dries Hard Over Night

Johnson's Floor Varnish dries free from dust in two hours and hard over night. It imparts a beautiful, high lustre—has good body—will give long wear—is absolutely water proof—and will stand all reasonable tests.

and is a constant for the assumed values of f_c , f_s , and n . The equation $bd^2 = M/R$ may also be written $bd = M/Rd$; $bd = \sqrt{Mb/R}$ and $bd = \sqrt[3]{b/d (M^2 \div R^2)}$. Substituting for bd in the expression for K , the cost given above, then $K = c(1 + rp) M/Rd$; $K = c(1 + rp) \sqrt{Mb/R}$; $K = c(1 + rp) \sqrt[3]{b/d (M^2 \div R^2)}$. These equations have been arranged in these forms in order to enable us to observe a variation in the costs due to the variations in b and d . From the first equation we note that the cost decreases as the depth increases so long as we can also decrease the breadth. The depth



As the Span Decreases and the Number of Columns Increases the Amount of Form Work Is Very Much Increased.

may be limited by the head room, or the value of b may be fixed to some extent to provide enough room for placing of reinforcing steel. Or the shearing stress might limit the area of the cross-section by fixing bd . The second equation shows that cost varies with the square root of the breadth; and the last equation shows the cost varies with the cube root of (b/d) . Comparisons by means of these equations will give us some indication regarding possible variations in our design so as to approach economical proportions. The cases might be enumerated according to the particular feature of the design which might be thought to be the important element. The value of bd might be determined by shear. Anyone of the values of b , d , or b/d might be fixed. If the value of bd is determined by shear, the result will be the least cross-section allowable and must remain constant even tho greater depth might be added. The volume of concrete will also be constant, but by increasing the depth the amount of steel will be reduced and therefore the cost of the beam. If the width of beam is fixed then K will vary with $(1 + rp) \div \sqrt{R}$. This shows that the cost depends on the relative cost of steel and concrete and also the steel ratio. This shows that as the allowable steel stress is increased the steel ratio is decreased and the cost is decreased. Curves plotted to show the variations in the cost would indicate that a steel stress of about 16,000 lbs. per square inch is the maximum desirable. If the depth of the beam is fixed, then our equation shows that the cost varies with $(1 + rp) \div R$. Here again an increase in the unit stress in the steel will result in a reduced value of p , and consequently a lower cost. Curves plotted for this condition show

that a steel stress of about 14,000 lbs. per square inch is the maximum desirable. When b/d is fixed then the best values will be between those when b is fixed and when d is fixed. The expressions shown above will assist us in working out designs for rectangular concrete beams, and of course must be understood to serve merely as guides. No design can be a purely theoretical design but the various limits imposed by the practical problem must be taken into account and then the above theoretical conditions used as far as possible.

Tee-Beams.—Instead of the strictly rectangular form, the Tee-beam design is very generally considered. Here the floor slab forms a part of the beam but as the slab is already designed, it does not enter into the cost of the beam and the web or stem may be considered for economical proportions. We may express the area of the web by $b' d'$ and the area of the steel by means of an approximate formula $A_s = M/f_s(d' + \frac{1}{2}t)$, where M is the bending moment and $(d' + \frac{1}{2}t)$ is the moment arm of the steel and t is the thickness of slab. The total cost of the web per unit of length may then be expressed as $K = c[b'd' + rM/f_s(d' + \frac{1}{2}t)]$. It can be seen from this expression that the cost will be reduced as the steel stress is increased and further if $b'd'$ is kept constant, then the cost decreases with an increase of d' . Great depths, however, are difficult to reinforce effectively, and would produce excessive shearing stress at the junction of the slab with the web.

Columns.—In the design of columns, the greatest theoretical economy would be secured without the use of steel. The steel in the column is stressed to a very low value; for instance, if the assumed stress in the concrete is 600 lbs. per square inch and if n is 15, then the corresponding steel stress would be only 9,000 lbs. per square inch. However, in the actual case of the column, tests show that it is desirable to use a certain amount of spiral as well as longitudinal steel in order to provide against possible unknown stresses due to bending caused by eccentric loads. In other cases a still large amount of steel might be desirable in order that the size of the column might be reduced to save floor space.

In a later article we shall show how the foregoing principles are used in an actual design.



Tonic for Dispositions

THE ADVANTAGES of giving the necessary paint and varnish to our premises is great—it preserves them, but there is also another far reaching effect—the reaction of cheerful surroundings on our own lives and the community at large.



New Charcoal Process

VERY dense charcoal, needed for gas masks, can now be made from soft wood charcoal by using proper pressure. It was formerly made from peach pits and cocoanut shells.



When you sell roofing— *what do you talk about?*

A BUILDING supply man once said that he couldn't sell anything he couldn't talk about.

He calls ordinary roofings "sugar and nails" because they are all just about alike—You can say they're roofings and that's about all. They sell if your customer doesn't happen to run into a competitor with a better product—that he can talk about.

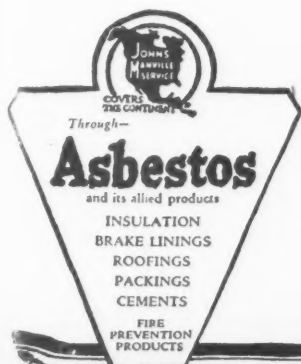
The man who sells Johns-Manville Asbestos Roofings and Shingles finds something to talk about. He builds his sales on the

fire-safety, weather resistance and permanence that their indestructible asbestos rock fibre body gives to these roofings.

That is why you can go out and sell Johns-Manville Asbestos Roofings against competition.

And remember that Johns-Manville advertising is keeping Asbestos Roofings and their advantages constantly before the public—another reason why they are easier to sell.

JOHNS-MANVILLE, Incorporated
Madison Avenue at 41st St., New York City
Branches in 56 Large Cities
For Canada: CANADIAN JOHNS-MANVILLE CO. Ltd., Toronto



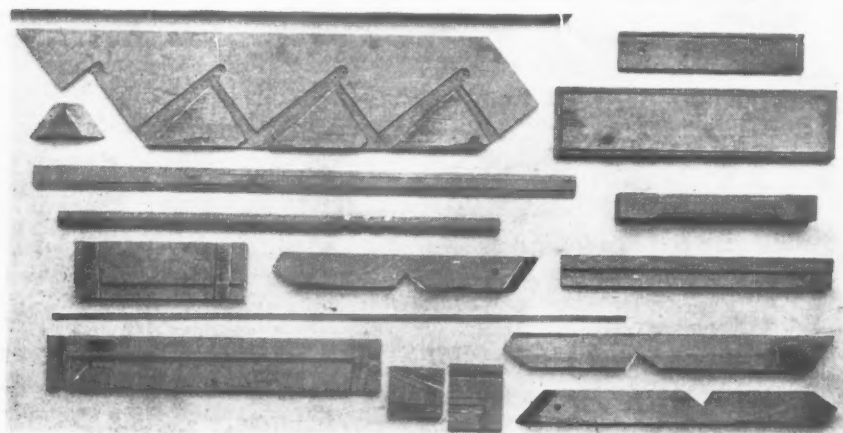
JOHNS-MANVILLE Asbestos Roofings



EDITOR'S NOTE: *The AMERICAN BUILDER does not accept payment in any form for what appears in our reading pages. In order to avoid any appearance of doing so, we omit the name of the maker or seller of any article we describe. This information is, however, kept on file and will be mailed to anyone interested; address AMERICAN BUILDER Information Exchange, 1827 Prairie Ave., Chicago.*

A Very Useful Machine for Builders

A COMBINATION wood-working machine designed to meet all the requirements of the contractor and builder is now being placed on the market. Weighing no more than 700 pounds when set up and ready for use it can readily be dis-assembled into four parts, the heaviest of which weighs but 200 pounds. Carried to the job it can be put to work under a small shed; or, if no outer housing is required it can readily be erected in the building that is in course of construction. No part of it, when dis-assembled, is of a larger dimension than would pass readily thru a door 2 feet



Housing Strings, Steps and Cutting Treads, Risers and Wedges; Cutting and Ripping Joists, Studs and Rafters; Mitreing Flooring; Making Window Frames, Cutting Hip Shingles, Roof Boards, Ship Lap Cutting Mouldings and Countersinking Pulley Holes—Just Part of This 700-lb. Machine's Daily Activity.

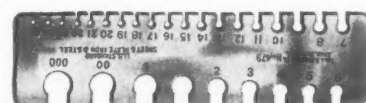
6 inches wide, consequently the advantage is apparent.

Its convenient size is only one of its useful features. All sorts of help is given at the building site by this machine. It can be used for housing out stair stringers; for jointing and ripping—any width; for rabbeting and boring. It cuts jack-rafters in one operation; cuts the finest veneers without chipping; does cross-cutting; cuts wedges at a rapid rate. All kinds of panel moulding can be cut of waste lumber, the moulding knife cutting and the rip saw ripping in one operation.

The machine can be either electrically or gasoline driven, the choice of either model being naturally based on local conditions. High grade material and accurate, careful workmanship combine to prolong its period of usefulness and make it a good investment for the builder and contractor.

Rolling Mill Gages of Special Utility

A new Rolling Mill Gages designed for quick, accurate work on sheet and plate iron and steel, and made to withstand hard, constant service.



The Gauges Are Pocket Size, and Gauged for United States and English Standard Numbers

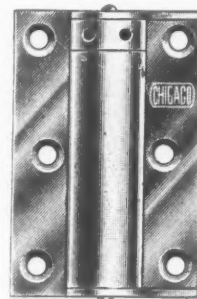
These gages are for English or Birmingham Standard, numbers 000 to 25 and 1 to 32 and United States Standard numbers 000 to 25. The decimal equivalents of each number are stamped on the back with extra large figures. The gages are hardened and tempered and each gage is carefully tested. They are approximately 3/16 inch thick, 1 7/16 inch wide and 5 7/8 inch long, and have a black finish.



Spring Hinges for Narrow Jambs and Stiles

HINGES, with self-contained springs, and designed to meet the demand for doors having narrow jambs and stiles are now coming into wide use. They are made of heavy wrought metal, with springs of well-tempered wire, and are unsurpassed for heavy or light cabinet doors such as would be used in connection with humidors, display cases, cabinets, lockers, chests, etc., of wood or metal. The flange is exceptionally narrow.

The hinges come in steel, brass or bronze metal and are finished to



Spring Hinge, Plain Style, Showing the Exceptionally Narrow Flange. There is also another style, with dome finish at each end.

match the appearance of the other hardware. The tension on the spring is adjustable, and as it is completely encased in the spring barrel there is no chance of unsatisfactory operation. The hinges are applied to the surface of the door and jamb, and should conditions require it may be had equipped with reverse springs to hold the door open. Two styles are to be had, dome-tipped and plain, both identical as to general construction, however. They are applicable to stiles and jambs as narrow as one inch.

10¢



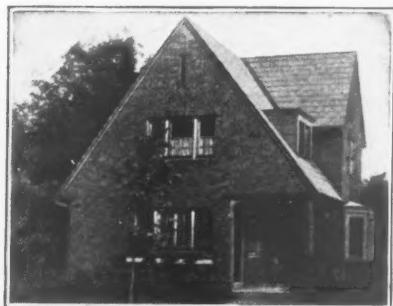
60

Brick House Designs

Selected from Thousands

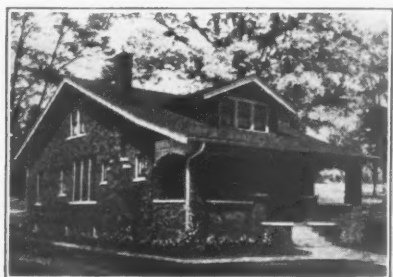
In the last two years we have photographed and studied thousands of brick homes, all over the country. Now 60 have been selected as the finest in beauty and interior arrangement. In the book—"Your Next Home"—are photographs and floor plans of these distinctive homes—a type and price for every taste and purse. Leading architects designed them.

It's a Practical—Usable—Book of Better Designs



THE TUSCOLA

One of the 60 shown in the book "Your Next Home". Has unusual charm with simplicity.



THE ARDILA

Another of the 60. It is a type that appeals to a wide range of home-buyers.

Just real photographs and plans of real homes—that *were actually built and lived in*. No expensive art work. Not a single unnecessary page or paragraph. A practical book in a plain paper cover.

That's why we can offer "Your Next Home" to you at the astonishing price of 10c. Better send for it today.

A Complete Plan Service for Builders

Experience proves that the attractive homes shown in this book sell quickly and profitably. These better designs are simple and economical to build. Yet they sell for more because they are worth more.

We offer a complete plan service to builders. Plans, specifications and complete information for each one of these 60 brick homes, are available to you at a nominal price.

The Common Brick Industry of America

2131 CLEVELAND DISCOUNT BUILDING

Cleveland, Ohio

The Ideal Brick Hollow Wall
Made of standard brick—cuts the cost one-third

Hanging Radiator on Walls Saves Time and Floor Space

IF it were his choice, the builder would prefer to hang all radiators against the walls rather than set them on the floors. He could have the anchor bolts set in the walls during the process of construction, and a few inches one way or



The Improved Radiator Hanger Takes All Makes and Sizes of Radiator and Holds Them Securely to Any Type of Wall, Freeing the Floor from Obstruction and Dust-catching Bases. Invisible when hanging is completed.

the other would cause no future annoyance. The radiators could be hung, all the connections made, the system tested and the radiators bronzed—all before the floors were laid. The saving in time and expense would be considerable. One radiator hanger that has come into wide use is designed for all makes and styles of radiation, vertical or horizontal alignment, is self-adjusted to expansion and so made as to fit in with the later use of temperature control valves. It is adjustable to any height of wall, and is adaptable equally well to walls constructed of concrete, brick, hollow tile, frame, gypsum block or other materials. When the radiator is hung the hanger is no longer visible.

Of course, from the housewife's standpoint, there is no question of the superiority of wall-hung radiators. They can be cleaned from the top, bottom and sides, and there is no obstruction to the cleaning and waxing of floors. The uncluttered floor space makes the room dimensions appear at their full value. Another point in favor of these radiator hangers is that, by lifting up the radiators from their dust-catching position on the floor, they give purer air radiation to the occupants of the house.



Stain Manufacturer Perfects Process for Cedar Shingles

CONSIDERING the success which the stained cedar shingle has been met with in the building field, it is not strange that this obvious selling point should have stimulated a prominent Kansas City manufacturer of stains to endeavor to make the staining as uniformly an easy and inexpensive process as possible.

Accordingly, cedar shingles are now to be obtained in bundles of any desired stock shade from lumber dealers. They have been stained at the mill, directly after they have been taken out of the kilns. This dryness makes the shingles take a deep, uniform shading, resulting from the full penetra-

tion of the stain. It is the psychological time for staining, since once removed from the kiln the shingles absorb moisture rapidly from the surrounding atmosphere. A damp shingle naturally would not take stain as well as would a warm, dry one.

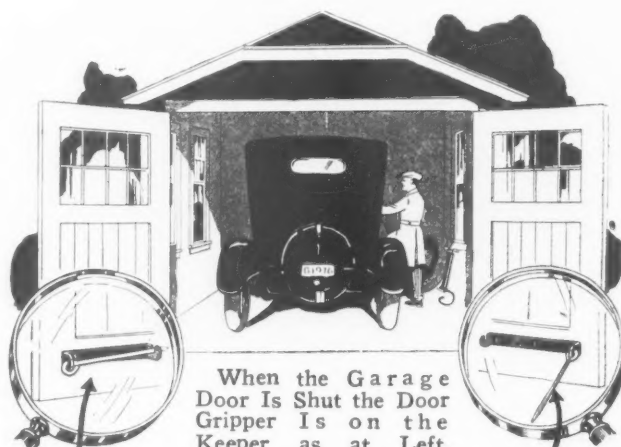
There is no added weight from the stain; at least than would occur from ordinary absorption of weighing moisture by a bundle of shingles. If anything would make the shingle bundles damp-resistant, a perhaps, than unstained shingles handled under conditions. Lumber dealers are able to order the shingles in various lots, and secure a good variety of shading without being forced to stock up with one color.

Naturally a stained shingle roof is pleasing, and there is no reason why two or three shades could not be used with genuinely artistic results on the same roof. In time the contrasty newness would be no longer pronounced and a tapestry effect gained from the varying color of the shingles.



Holds Swinging Doors from Slamming Shut

A SIMPLE, practical door holder for use with swinging doors and that requires no stooping or propping of any kind to adjust, is being featured by one manufacturer of hardware specialties. When the door is opened the gripper is lifted off the keeper with the foot. This gripper pin then props the door and grips any kind of driveway surface—concrete, wood or gravel. To close the door it is a simple matter to lift the gripper pin with the foot and drop it



it is in action, as in picture at right.

in the slot provided. A device of this nature naturally suggests itself for use on swinging garage or barn doors, and in connection with driveway entrances generally.



A Telescoping Porch Gate with Many Possibilities

KEEPING the younger children on the porch is a problem, and even if they are well-behaved and mind well—as yours and ours are—they sometimes tumble down the stairs or ramble away. All this is with the best of intentions, of course, and naturally without any idea of causing mother any extra trouble. In such a case a gate like this would be of great help. It is easily put up, holds to its fastening securely, does not obstruct the kiddies' view of the always interesting street or yard, and saves the mother much time, not to mention worry, in connection with her day's work. Its other possibilities have to do with its use indoors. It



ANACONDA

Why Brass Pipe ?

Because it endures—It will not split. Water will not rust it. It will not clog or leak. Money spent in tearing out and replacing corrodible pipe is saved.

Because it insures—rugs and furnishings are safe from stains of leaking water. Ceilings will not fall or be made unsightly. The homeowner will be spared the annoyance of rusty water in his bathtub. No fear of torn out walls and ripped up floors. None of the confusion and expense that follow in the footsteps of the repair man.

And the added cost is almost negligible. Less than 1 per cent of building cost will cover the extra cost of Anaconda Brass Pipe over corrodible pipe. The difference is about \$75 for a \$15,000 house. For a 12-story apartment house, in which the total plumbing cost is \$60,000, the added cost of Anaconda Brass Pipe is approximately \$1,000.

Anaconda Brass Pipe is trademarked and guaranteed.

Publication B I includes detailed figures on installation costs and installation practice. It will be sent free on request.

THE AMERICAN BRASS COMPANY
GENERAL OFFICES, WATERBURY, CONN.

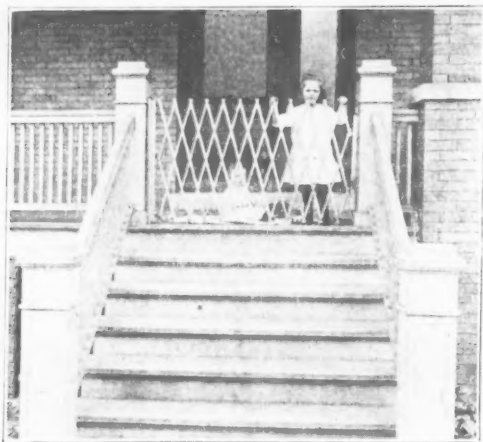
MILLS AND FACTORIES
Ansonia, Conn. Torrington, Conn. Waterbury, Conn. Buffalo, N.Y. Kenosha, Wis.

OFFICES AND AGENCIES
Cleveland New York Philadelphia Boston Providence Pittsburgh
Cincinnati Detroit Chicago St. Louis San Francisco
ANACONDA AMERICAN BRASS LIMITED, NEW TORONTO, ONTARIO, CANADA

ANACONDA

BRASS PIPE

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER



The Telescoping Porch Gate Which Effectually Keeps Baby from Exercising His or Her Wanderlust. Held shut by spring catch and folds back, telescope style, when not in use.

can be used between rooms; to keep baby in sight, but out of the kitchen on busy baking and cleaning days, or at meal preparation time; or to close the stairway to discourage baby's climbing proclivities. The gate telescopes into small shape, opens easily, and is held securely by a spring catch so placed that it is beyond manipulation by little hands.

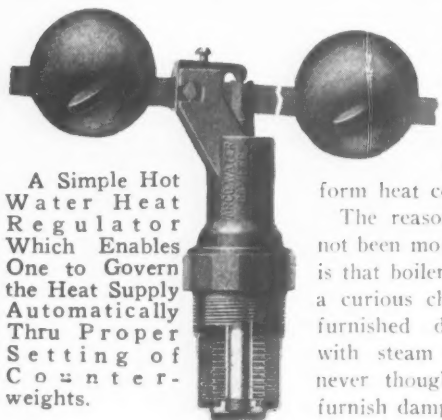


Hot Water Heating Control Thru Damper Regulation

COMBUSTION control by means of damper regulation is quite as necessary on hot water boilers as on steam boilers. The proof of this is that a large number of the heating trade, who specialize in hot water work, never install

a job without regulators; an installation would to them seem incomplete without this inexpensive way of assuring uniform heat control.

A Simple Hot Water Heat Regulator Which Enables One to Govern the Heat Supply Automatically Thru Proper Setting of Counterweights.



The reason this opinion has not been more generally shared is that boiler manufacturers by a curious chance have always furnished damper regulators with steam boilers, but have never thought it necessary to furnish damper regulators with water boilers. Possibly the

reason for this inconsistency is that until recently there was no dependable damper regulator for hot water that could be obtained at a reasonable figure.

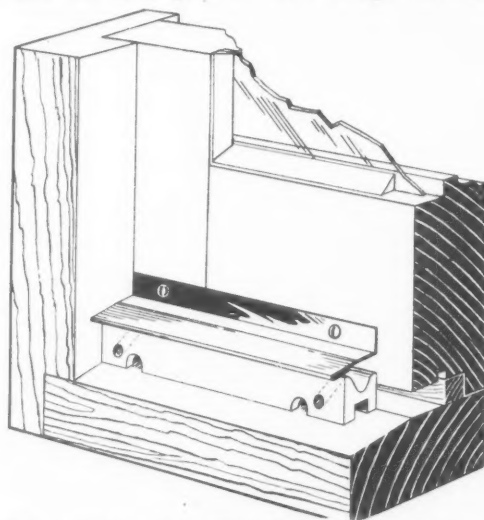
One manufacturer, however, is now marketing a simple regulator which will actually and actively maintain any desired water temperature in the circulating system within a specified range, according to the setting of the counterweights. This results in an appreciable fuel economy thru avoidance of violent fluctuations in the water temperature. What is quite as important, it affects an enormous convenience and saving of time-attention.

Householders who once use one of these simple regulators would consider it a hardship to be required to come back to hand manipulation of the dampers. The wonder is that many whose intelligence suggested the advantage of hot water heating in the first place should not have gone still farther and made it still more effective, healthful and economical thru the use of a damper-temperature regulator.

A Snug and Dry Weatherstrip for In-Swing Casements

FOR many reasons, not the least of which is the lesser danger of breakage, in-swinging casement windows are preferred to those opening out. Protection against the wind and the rain is something greatly to be desired, and it has not always been possible to keep in-swinging casement window sashes absolutely weathertight when closed.

A new strip recently placed on the market is designed to correct this. It is used with the plainest type of sash and sill, requiring no special pattern. A metal strip, of brass or zinc, is screwed on the outside of the sash at the bottom. This diverts practically all the water that comes in contact with the window. Any water not carried away by it, and that finds its way below—such as wind-blown rain, is caught by an auxiliary trough of hardwood. This hardwood trough is drained by an upper row of weep holes and by staggered lower weep holes, the arrangement of these being such as to effectually divert any water from driving inward beyond the trough and the sash groove. The trough also makes an



In This Combination Weatherstrip a Small Strip of Brass or Zinc Diverts Water Coming in Contact with the Window, and in the Case of Windblown Rain Is Aided by the Extra Drain Below, Insuring a Snug and Dry Window Inside.

excellent drain for any vertical weather stripping that may be in use. As it is of hardwood it is long lived, and serviceable even for door threshold purposes. Tests have shown the main trough cannot fill enough to overflow the rib of the sill, and this efficiency, combined with the low cost, ought to make this particular casement strip popular with the devotees of casement windows.



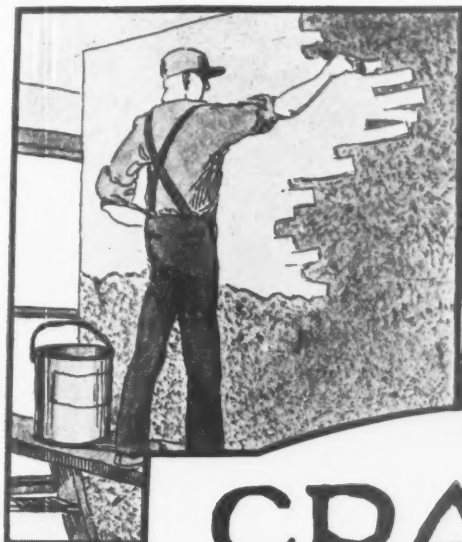
A Clock Spring Sash Balance

AN improved spring sash balance bids fair to make the old-fashioned weight and cord only a reminiscence in window sash and frame construction.

This new device consists of a tape of rust-proof steel wound on a revolving drum operated by a clock spring of finest steel. The tapered end of the tape is looped, to fasten into a hook set in the grooved part mortised in the sash, and operates in tension from the spring balance set in the frame.

The sash is fitted complete and fastened in the frame with the stop. The sash balance may be put in last, because the design makes it possible to hook or unhook the tape fastener without disturbing the sash. Any time it is desired to remove the sash balance it can be done by releasing the tape hooks and removing the two screws which hold the balance in its mortised position in the frame.

The sash balance units are made in different sizes for various weights of sash. Once the proper size is determined



CRAFTEX

A Permanent Wall Finish

THE original wall finish designed to produce walls of texture and color harmony to meet the modern tendency toward less formal decorations. A complete solution to the problem of wall board decoration.

Reduces Building Cost

Crafttex can be applied to the "brown" coat of plaster (floated or troweled as smooth as possible by the plasterer) in place of skim or hard coat plaster and paint. This saves 30% of the cost of plaster. Crafttex hardens over night. This shortens the time during which a building or room must ordinarily remain unoccupied to allow for hardening of plaster and drying of paint.

One Coat Decorates Wall Board

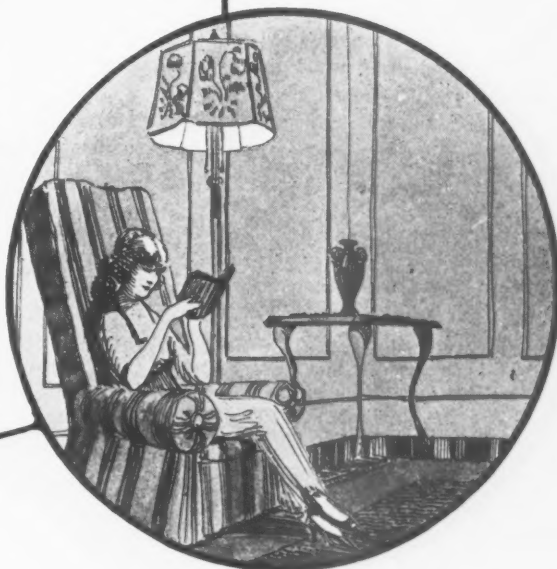
Joints of wall board (after they are filled in the usual way) can be so completely concealed by Crafttex as to produce the effect of a plastered wall. The statement has been made by a nationally known firm of engineers that "Crafttex will always be specified in conjunction with wall board where the joints are to be concealed."

A Background of Beauty

People today are demanding a wall finish that is "different." CRAFTTEX with its textured hand-made surface, no two square feet of which are alike, presents the only complete solution.

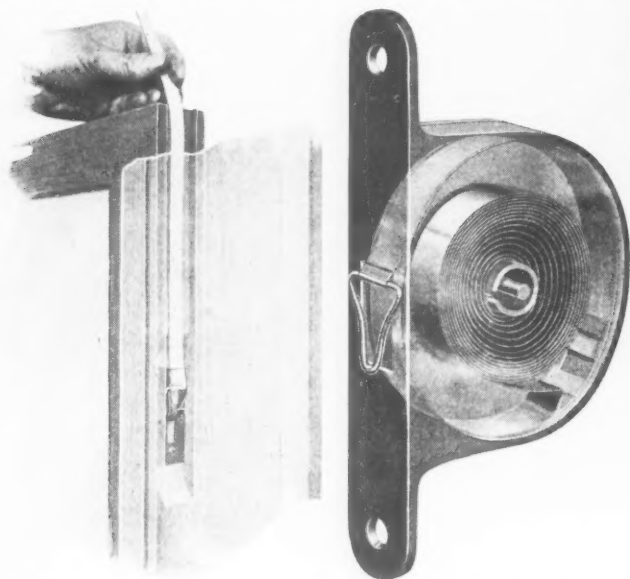
**Simmons, Gardner
Company**

7 WATER STREET 101 PARK AVENUE
BOSTON, MASS. NEW YORK CITY



it is a simple matter to order the proper mortising at the mill, the work being done as cheaply as the mortising for the ordinary sash pulley. A carpenter can make the required mortising for a new installation in old sash with a bit and rabbeting plane.

The use of this improved sash balance enables the replacing of the box style frame with tighter and better construction.



Right, Shows the Clock Spring Sash Balance as It Would Look Were the Spring Visible Thru Its Case. Left, shows the tape with hook, guided down to its fastening position on the window thru the grooving in the frame. Not necessary to lift out the sash to fasten this.

A carpenter can install at least three window frames of the improved type in the time required for the installation of one box type frame.

Naturally, a device of this nature permits narrow mullions, and consequently larger glass area in windows. It is an inch wide and three inches deep, but as it can be fitted in the top of the frame if desired it permits the reduction of the side divisions of a row of windows to the narrowest space possible.

This device is guaranteed for ten years and approved by the National Board of Underwriters.

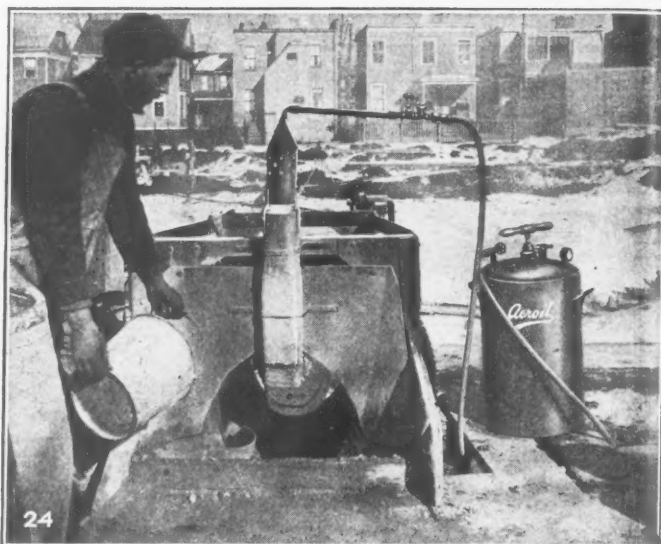


Heating Concrete Better

WINTER weather offers no obstacle to concreting for the builder using a new kerosene-burning concrete heater. It eliminates the expensive, unsatisfactory and undependable separate heating of the water and the aggregate, and produces hot concrete in zero weather that remains warm for from 40 to 56 hours after being poured. By hardening and setting before there is a chance of freezing, smooth, even and strong work is assured under the most adverse weather conditions.

The heater uses kerosene, which is conveyed to the burner under pressure, and burns clean, without smoke, and is unaffected by wind, rain or snow. As will be seen in the illustration, the flame is guided downward, delivering the heat right into the mixer drum, and heating the whole mix. Considering the amount of heat generated, the oil consumption per hour is unusually low.

There are naturally many other ways wherein a heater of this type could be made useful on a building job in freezing weather, such as thawing ice and snow from forms, thawing out air and water pipes, machine parts, and serving the purpose of a salamander. As the heat generated is very intense there are other possibilities, such as for preheating, brazing, annealing, etc., to mention nothing of the advantage in drying concrete for waterproofing.



The Improved Way of Heating Concrete Uses Kerosene, Conveyed to a Burner Under Pressure. The flame, like that of a blow torch, is forced downward into the mixer drum, heating the whole batch.



A Dandy Tool Case

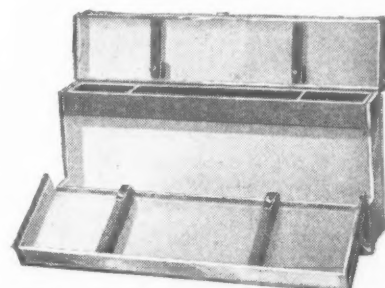
NEXT to the pride a good carpenter takes in owning good tools is the pride that comes from carrying an attractive and serviceable tool case to the job. Just as a traveler is judged by his luggage, so is a carpenter judged by his tool case. Many a carpenter carries an old battered tool case, for no other reason than that he has become sentimentally attached to it. And yet it may lessen his chance of making a good impression equal to his ability, to say nothing of the chance of its letting his tools get wet and rusted on a rainy day, or stolen because the lock was old or loosely hung.

A handsome improved tool case now on the market is made of non-corrosive copper and brass lacquered zinc on a stout frame. It is agreeably light in weight, and will not spot or corrode, and can not leak-in water. All the hardware is attached with rivets, and the case opens on the top, a drop-side falling to give better access to the tools. It has a stationery three-compartment tray, level and saw rack, all strongly and durably made and of the best quality of material, and the lock is the chest type with flat steel key.



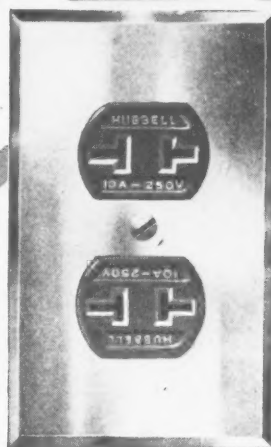
The Tool Case Closed, Showing the Neat, Strong Construction, the Riveted Hardware, and the Chest Style Lock. The case proper is copper or brass lacquered zinc.

Altogether, it is a case which keeps tools shipshape and which any carpenter would be glad to own, to say nothing of the householders who wished to keep ordinary household tools stored in a way that will keep them instantly accessible when needed. The dimensions are 6 x 16 x 32 inches, and the case comes equipped for hand or shoulder carrying.



The Tool Case Open, Showing the Three-compartment Tray, the Level and the Saw Rack.

HUBBELL



**Shallow
Body**

DUPLEX
Convenience Outlet
Body: 6257; Plate: 6258

More Convenience Outlets Make Better Homes

—and homes easier to sell. Home buyers are quick to notice the presence of properly placed electrical outlets. They know that plenty of them in every room means more convenient operation of electrical appliances.

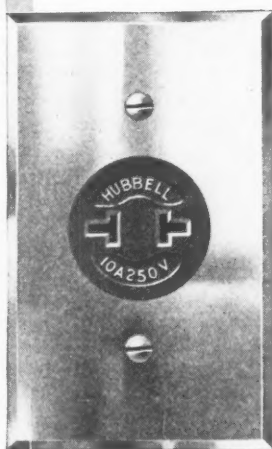
This Hubbell line is complete—it in-

cludes a type for every location. It is an easily installed line, too—shallow bodies and large contact terminals permit economy in wiring. Care in manufacture, accurate assembly, and honest materials result in a rugged mechanical strength that assures long and efficient service.

We Also Make Toggle Switches

The Toggle Switch is increasing in popularity because of its pleasing appearance, reliability, and simple operation. Hubbell Toggle

Switches are attractive in design, and possess the same rugged mechanism found in all Hubbell products.



SINGLE
Convenience Outlet
Body: 5547; Plate: 5548

HARVEY HUBBELL INC.
ELECTRICAL SPECIALTIES
BRIDGEPORT, CONN. U. S. A.



Descriptive Circulars

Write us—or your distributor—for illustrated circulars describing Convenience Outlets and Toggle Switches.

ELECTRICAL SPECIALTIES

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER

CORRESPONDENCE

*Questions Answered—
Ideas Exchanged*



Our Readers Are Requested and Urged to Make Free Use of These Columns for the Discussion of all Questions of Interest to Architects and Builders

Film House Nearing Completion

To the Editor:

Oak Park, Ill.

The house being erected in Glen Ellyn by the Atlas Educational Film Company is very rapidly nearing completion. As you will recall, this is the house which furnishes the background material for the five reel Own Your Home film regarding which so much has been said in the press of late. In order that the film may be completed on schedule time and ready for the many Own Your Home shows and Own Your Home weeks scheduled for 1923, the work is going on night and day without stopping.

At the time of your going to press the plastering will have been finished and all the plumbing, heating, and wiring installed. Within the next week or so at the very most the interior finish will have been completed and the actual furnishing of the home begun. Requests for the use of the film are pouring in daily and it has begun to look as tho the agreed number of showings of this film will be trebled and quadrupled.

The co-operation that is being extended as regards building of the house and making of the film is nothing short of wonderful. It is a revelation to note the broad-minded atti-

tude of the various manufacturers who are vitally concerned with the Own Your Home movement.

PAUL GREEN.



Dove Tail Joint on Round Stick

To the Editor:

Kent, Oregon.

Can you tell me how to make a dove tail on a round stick such as an umbrella handle? I understand that there is a way of making a joint of this kind and that it is a very close fitting joint as well as an extra strong one.

Have been a reader of your magazine for several years, but do not remember seeing anything of this kind discussed in it.

D. E. CLARK.



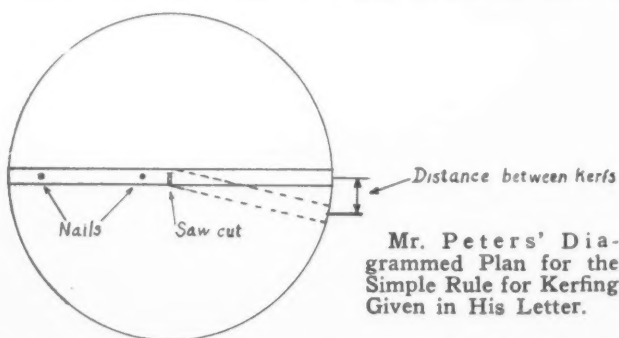
Rule for Kerfing

To the Editor:

Boulder, Colo.

In answer to Mr. O. L. Pratt as to a fixed rule for kerfing, I will give the one that I have used with success.

Take a stick twice as long as the radius of the circle the board is to be bent around, cut a saw cut into the center of



the stick, nail the one-half of the length of the stick to the floor, then note the distance the loose end of the stick travels in order to close the saw cut. This distance represents the distance apart the kerfs will have to be.

Be sure to use a stick same thickness as board to be kerfed, and use same saw too.

R. J. PETERS.



Want Hollow Wall Experiences

To the Editor:

St. Helens, Oregon.

I have watched the columns in your magazine for the last six or seven months in hopes to find an article on Hollow Wall Construction. Would some of the Brother Builders give their experiences thru the columns of your correspondence



Residence at Oak Park, Ill., Which the Atlas Educational Film Company Is Featuring in Every Detail of Its Construction, and Which Will Form Part of a Film Story Which Will Be Released in Own Your Own Home Shows Thruout the Country.



New Profits from Old Roofs

NO need to rip off old shingles—gamble with the weather—litter up yards with dirt—put your clients to needless trouble and expense.

Genasco Latite Shingles—the leak-proof, storm-tight roofing that locks on—can be laid right over old, worn-out, weather-battered shingles—quickly—easily—inexpensively.

Think of the possibilities here for new business and new profits this spring! Here's the way to prove it. Check up the buildings in your community with worn out roofs—or that need artistically better roofs.

Then explain to the owners the many advantages of re-roofing the "Genasco way"—why Genasco Latite Shingles can't warp, can't curl, can't flap in the wind—how they're locked tight.

You'll be astonished—as have thousands of other builders—at your resultant business and profits. Also at the prestige and goodwill you gain.

Genasco Latite Shingles, with their backbone of tough-fibred asphalt felt—their heavy undercoating of Trinidad Lake Asphalt Cement (the famous Sealbac feature)—will last for years with little or no cost for repairs. They come in three colors, green, red and blue-black.

Don't overlook this real money-making opportunity. Write at once for illustrated folders describing in detail these wonderful shingles.

New York
Chicago
Pittsburgh

**THE BARBER ASPHALT
COMPANY**
PHILADELPHIA

St. Louis
Kansas City
Atlanta

Genasco

Asphaltic Roofing, Flooring, Paints and Allied Protective Products

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER

department or by letter on construction of hollow walls, as to the proper mixtures of concrete, number of men it takes for a well organized crew and number of square feet wall surface that can be laid in a day, also the cost of the material in their locality and the amount it takes for a given portion of a wall?

I have gotten a great deal of valued information from your paper. I wish to congratulate you on the way you present the different building ideas, information and advertisements on materials and tools.

J. H. CRONKITE.

Caked Concrete Mixer—Can It Be Cleaned?

To the Editor:

Hesston, Kansas.

I have a cement mixer, batch, which the parties last using failed to clean properly. As a result a lot of the concrete has adhered to it, making it heavy and the concrete does not mix as it should. Is there a way of cleaning it out? I wondered if building a fire inside and getting the hardened concrete quite hot would check it so it can be cleaned. Please let me know your experience along this line.

B. J. KING.

Answer—Building a fire inside the mixer is a questionable way of causing the concrete to flake in shape to loosen. It would be likely to hurt the mixer, for the heat would have a tendency to warp the hopper, the metal feeling the heat long before any appreciable influence was made upon the concrete. Concrete is very heat-resistant; it requires from 1100 to 2100 more degrees Fahrenheit to affect concrete than it does steel. Probably the building of a light fire inside for quick heating, then raking the fire out, and pounding on the outside of the hopper with a not too heavy sledge would help, since it would make for a slight expansion and quick contraction which would help to flake the caked concrete under the blows of the sledge. The removal of caked concrete from a mixer is difficult and unpleasant work. We wonder if there are not some among our readers who could give Mr. King the benefit of their experience.—EDITOR.

How Do You Build Short-Run Cellar Stairs?

To the Editor:

Brooklyn, N. Y.

I would like to make a suggestion for consideration and opinions by other correspondents. I want to hear how other readers build cellar stairs leading out to sidewalks where there is only a short run to get up, for example, a cellar stairway 7 feet high and 5 feet wide.

What will the pitch be, how many steps and how wide and what is the best material to build them from?

ALVA BRIGGS.

Must Estimate 3000 Gal. Tank

To the Editor:

Lincoln Park, N. J.

I am about to build a frame work to hold a water tank of about 3,000 gallons capacity. This tank will be about 18 feet above the ground. It will weigh about seven tons when full. The ground is all rock at the spot.

I would like to know the cost to build it of steel, brick or concrete and such other information as would help me to properly build this structure.

SAMUEL WHITE.

Cuts for Boards in Hip Roof

To the Editor:

Lima, Ohio.

I would like someone to explain how to get the proper bevel on the edge of the sheathing boards for a butt joint, on a hip roof having a rise of nine inches per foot run. With the framing square I understand how to get the bevel on the face of boards, also on the edge for a mitered joint, but I get lost on the edge cut for a butt joint.

L. C. HIGH.

Who Will Advise Mr. Johnson on How to Build Grist Mill?

To the Editor:

Gainesville, N. Y.

Could you give me any suggestions with regard to building a grist and feed mill, or where I could get them? Would you be able to tell me where I might get catalogs of attrition mills and motor power to run them, preferably kerosene?

LEO A. JOHNSON.

What Sort of a Floor is Needed?

To the Editor:

Rocky Hill, Conn.

Please give us information as to the construction of reinforced concrete floor for garage 19 by 20 feet, with cement girder running the 19-foot way in center.

The floor is to have walls under all four sides and to carry about 7,000 pounds.

S. B. ELMORE.

Electric Power Grain Elevator

To the Editor:

Below are photographs of a modern corncrib built by me from memory, from a design once illustrated in AMERICAN BUILDER. Details of construction and foundation are: 32-inch footings; 10-inch walls; 6-inch floors of reinforced concrete; metal stud sockets; 2 by 8-inch studding. The driveway is 12 feet wide and the corncrib 50 feet long, 16 feet to eaves and has 10-foot cribs. There is an inside elevator, dump logs and deep pit and electric motor furnishes the power. It was built for the Farmers' Cereal Company, Sloan, Iowa.

HENRY F. BURGE, General Contractor.



The Roof Structure Going Up on the Corncrib Which Was Designed by Mr. Burge from a Plan Memorized from American Builder.



The Roof Framing of the Corncrib Completed, and Ready for Roof Boards and Shingling. Completed, the building has a 12-foot driveway 50 feet long, and inside elevator, 10-foot cribs, dump logs and deep pit, and electricity is used for power.

Millions to Be Spent in Building This Year Means More Money to Men Who Can Handle the Big Jobs

Greatest Chance in History for Those Who Will Train in the Higher Branches of Their Trades

From all over the country come reports of tremendous activity in building. Business buildings, factories, warehouses and homes are going up in towns and cities from coast to coast. Every man who wants a job can find one. We are on the high road to the greatest prosperity America has ever seen because we have the money and it is fast getting into circulation.

Never before such great opportunities for men in the building trades—but some of these men are going to make a lot more out of this boom than others and these will be the men who are ready to do the

planning and directing. Of course every man who can handle tools will be wanted but he will get only the regular wage scale. It's the man who is a good foreman or superintendent or the contractor who can take on the paying jobs that will make the big money.

Head work pays better than hand work. It always has and it always will. The man who wants to get to the top must learn to get more out of his head, no matter how well he may know how to use a saw and hammer, a trowel, or any other tool. It's the man trained to think who will boss those who are simply trained to do the manual labor.

Make the Best of the Big Opportunities that Are Waiting for You

If you don't make a bigger income this year than you have ever made in your life it is because you will not prepare for the jobs that are open to every trained man in your trade.

Not only are good workmen needed but there is a demand far beyond the supply for men who can read plans, figure costs and see that a job of building or some important part of a big construction project is done right and finished on time.

Among the men who are doing the manual work today are thousands who need only training to do this work of thinking and directing which means more money and easier work. Many a workman now taking orders could soon be a "boss" if he would put in a few hours of his spare time weekly to get this training.

That has been proved over and over again by the ambitious men who made up their minds to get out of the ranks and who trained for the big pay jobs.

Everywhere you find these successful men who speak of the specialized education they got from Chicago Technical College as their stepping stone to advancement.

There, for instance, is S. J. Dickerson, of Rhode Island, who writes that after taking the Chicago "Tech" Builder's Course he learned more about building in a few months than in all his life be-

fore and that his income has been increased from \$50 a month to \$150 a week.

And R. S. Carey, of Illinois, writes that his salary is now four times as much as it was before he took Chicago "Tech" training. P. Marchand, of Louisiana, writes that ten days after completing his course, his income was increased 100 per cent. J. D. Simpson of South Carolina says that the training he received from Chicago "Tech" enabled him, to handle the construction of a \$175,000 memorial building and a \$250,000 school building, with ease.

Why waste your spare time when you can use it to increase your earning power?

These are just a few examples of what men have done who knew that they had the ability but needed only the right kind of training to bring it out.

Chicago "Tech" Will Train You By Mail

Stay on your job. Draw your regular pay. But put in a few hours a week of your spare time to pleasant, fascinating home study under the direction of the experts of Chicago Technical College.

These experts will give you practical training in a way that will be easy for you to understand. From the very start you can apply your increased knowledge to your daily work—you will be a more efficient workman—have a better understanding of how things should be done—and, almost before you realize it, you will have the expert training that has brought success to thousands of other ambitious men.

No better time than right now, while wages are high and there is plenty of work ahead, to prepare for a more important, bigger paying job. Or if you are contracting in a small

way, you can get the training that will enable you to take on larger propositions.

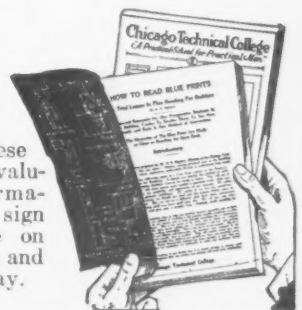
At least find out about this training. All you need do to get the facts, is to send the coupon.

FREE 2 Books and Blue Prints

Your request will bring our two books, one on "How to Read Blue Prints," containing a lesson in Plan Reading, and with it we send blue prints, drawings, etc. With this lesson you can test yourself. See how easily you can learn by our method before you decide about enrolling. The other explains the Chicago "Tech" Method of training by mail.

Send the Coupon

To get these books and valuable information just sign your name on the coupon and mail it today.



Chicago Technical College
336 Chicago Tech Bldg., Chicago, Ill.

Please send me your Free Books and Blue Prints for men in the Building Trades. Send postpaid to my address below.

Name

Address

Post Office..... State.....

Occupation.....



January Construction 31 per cent Ahead of Last Year

JANUARY construction activity was 31 per cent greater than it was in the corresponding month of last year, according to the F. W. Dodge Company. Total contracts awarded last month in the 36 eastern states of the country (including about seven-eighths of the total construction volume) amounted to \$242,755,000. The record on 27 of these states shows increases of 1 per cent over December, and of 31 per cent over January, 1922.

Residential construction constituted 51 per cent of the January total, amounting to \$122,695,000, an unusually high figure for this time of the year. Second in importance were business buildings, amounting to \$36,332,000, which was 15 per cent of the total. Other important items were: \$28,642,000, or 12 per cent, for public works and utilities; \$23,152,000, or 10 per cent, for industrial buildings; and \$16,862,000, or 7 per cent, for educational buildings.

Contemplated new work reported in January amounted to \$813,280,000, which was more than three times the amount of work started during the month. The enormous volume of contemplated work reported in December and January seems to indicate a heavy volume of activity in the coming spring months.

New England

Contracts awarded in the New England states during January amounted to \$22,770,400, which was the largest January total on record, an increase of 9 per cent over December last, and of 42 per cent over January, 1922.

Included in last month's total were the following important items: \$14,840,000, or 65 per cent, for residential buildings; \$3,151,000, or 14 per cent, for business buildings; \$1,950,000, or 9 per cent, for industrial plants; and \$1,283,000, or 6 per cent, for educational buildings.

Contemplated new work reported during the month amounted to \$66,572,000.

New York State and Northern New Jersey

In New York state and northern New Jersey, January building contracts amounted to \$64,242,000, an increase of 14 per cent over December, and of 18 per cent over January, 1922. Last month showed the second largest January total on record.

Included in last month's total were the following: \$48,459,000, or 75 per cent, for residential buildings; \$6,082,000, or 9 per cent, for business buildings; \$2,730,000, or 4 per cent, for social and recreational projects; and \$2,500,000, or 4 per cent, for industrial buildings.

Contemplated new work reported in January amounted to \$157,205,000.

Middle Atlantic States

Contracts awarded during January in the Middle Atlantic states (eastern Pennsylvania, southern New Jersey, Delaware,

Maryland, District of Columbia and Virginia) amounted to \$32,506,000. This was the second largest January total on record, and indicated a rate of activity equal to that of the preceding month and 56 per cent greater than in January, 1922.

Included in the January figures were: \$12,266,000, or 38 per cent, for residential buildings; \$9,954,000, or 31 per cent, for business buildings; \$3,726,000, or 11 per cent, for industrial buildings; and \$2,293,000, or 6 per cent, for educational buildings.

Contemplated new work reported during the month amounted to \$65,572,000.

Southern States

Total contracts awarded during January in the southern states (the Carolinas, Georgia, Florida, Alabama, Mississippi, Tennessee, Louisiana and Arkansas) amounted to \$25,189,000.

Included in the January total were the following items: \$10,908,000, or 43 per cent, for residential buildings; \$5,232,000, or 21 per cent, for business buildings; \$2,956,000, or 12 per cent, for educational buildings; \$2,713,000, or 11 per cent, for public works and utilities; \$1,208,000, or 5 per cent, for industrial buildings; and \$2,172,000, or 8 per cent, for other classes of structures.

Contemplated new work reported during the month amounted to \$124,961,000, nearly five times the amount of work actually started during the month.

Pittsburgh District

January building contracts in western Pennsylvania, West Virginia, Ohio and Kentucky amounted to \$27,002,000. January construction activity was at about the same rate as that of December, but 13 per cent better than in January, 1922.

Included in last month's total were: \$12,550,000, or 46 per cent, for residential buildings; \$4,246,000, or 16 per cent, for public works and utilities; \$2,681,000, or 10 per cent, for industrial buildings; and \$2,639,000, or 10 per cent, for business buildings.

Contemplated new work reported during the month amounted to \$69,706,000.

The Central West

January building contracts in the Central West (comprising Indiana, Michigan, Illinois, Wisconsin, Iowa, Nebraska, Missouri, Kansas and Oklahoma) amounted to \$68,051,000, the largest January total on record for this district. Activity in January was 9 per cent slower than in December, but 41 per cent better than in January, 1922.

Included in last month's total were: \$22,316,000, or 33 per cent, for residential buildings; \$16,805,000, or 25 per cent, for public works and utilities; \$10,148,000, or 15 per cent, for industrial buildings; and \$9,125,000, or 13 per cent, for business buildings.

Contemplated new work reported during the month amounted to \$306,374,000.

The Northwest

January building contracts in Minnesota, the Dakotas, and northern Michigan amounted to \$2,994,000, a drop of 1 per cent from December and of 31 per cent from January, 1922. Forty-five per cent of last month's total, \$1,356,000 was for residential buildings, and 31 per cent, or \$939,000, for industrial buildings.

Contemplated new work reported in January amounted to \$22,890,000.



New Adensite Company Manufactures Concrete Conditioner

THE Adensite Company, Inc., 116 West 39th St., New York, N. Y., has recently been formed for the purpose of manufacturing and marketing "Adensite," a concrete conditioner



Once You've Finished
They Can't Install a—

KERNERATOR

THE owner, in many instances, doesn't realize that the Kernerator must be part of the plans—must go in as the building is erected—or not at all. For the Kernerator is a permanent, built-in-the-chimney incinerator which removes forever the nuisance of unsightly garbage can and rubbish heaps.

In thousands of modern apartments and residences the Kernerator is answering the question of how to dispose of household waste and garbage—just as modern plumbing has solved the problem of sewage disposal.

Costs nothing to operate—the moderate first cost is the last—as the refuse itself is all the fuel needed. Broken crockery, glass, tin cans, wilted flowers, cigar and cigarette stubs—even old razor blades—as well as garbage and papers—are dropped into the hopper door. In the incinerator in the basement everything combustible is reduced to ashes, while non-combustibles, rendered germ-free, are later removed with the ashes.

For full details and specifications, see page 2124, Sweet's 1922 Catalog, or write—

Kerner Incinerator Company
1053 Chestnut Street MILWAUKEE

The Kernerator consists of a brick combustion chamber, built-in-the-chimney in the basement, with hopper doors conveniently located on the floors above. Patented construction features create a forced draft, drying the accumulation and causing immediate, full combustion.

KERNERATOR

Built-in-the-Chimney

Reg. U. S. Patent Office

which densifies, hardens, waterproofs and dustproofs portland cement, concrete and mortar.

Thomas Moore and William C. Kober, formerly with the Anti-Hydro Waterproofing Company—Mr. Kober having been in charge of the Philadelphia office of the latter company—will be active in the management of the Adensite Company. They have had long experience in this field, in all its phases, and have both poured concrete on the job.



"Medusa" Collecting Waterproofing Data

THE Sandusky Cement Company, Cleveland, Ohio, is sending out a questionnaire to those who specify and use "Medusa" products. The object is to secure a compilation of the various applications which have been made of Medusa cements and Medusa waterproofing in all phases of concrete and waterproofing work. When the questionnaires have been turned in the company expects to issue a digest of them all in book shape. It will, no doubt, be an elaborate, pretentious affair, and like the other "Medusa" publications, contribute real support and momentum to the ever-increasing advance of the many-sided concrete industry.



Southern Pine Association Issues New Garage Book

PROBLEMS involved in providing a "home for your automobile" are solved in comprehensive and satisfactory manner in an attractive new book entitled, "Southern Pine Garages—And How to Build Them," which has just been compiled and published by the Southern Pine Association, New Orleans, and now is being distributed to lumber dealers, architects, contractors and the public. The book has a handsome cover in colors and it contains photographs and detailed plans of eleven different designs of garages, ranging from the one-car "Ford Favorite" to the more elaborate "Apartment Garage" combining living quarters and space for cars.

Chapters of general information are included in the text regarding how to build a garage in the best and most economical way, the location on the lot and suggestions on kinds of material to use and on the choosing of a design of garage that will harmonize architecturally with the residence and suit the car-owner's purposes most conveniently. There also is a table of sizes of virtually all the makes of automobiles in use in America.

One feature of the new book is the especial attention devoted to problems of heating, lighting and water systems in garages which have presented considerable difficulty to many garage builders in the past. The book is for free distribution to the public.

Besides photographs and clearly worded descriptions of each of the eleven designs shown in the book, with detailed information as to location on lot, kinds and quantity of materials to be used, arrangement and equipment of the garage and suggestions for embellishment, each design also is accompanied with detailed drawings, showing the floor plans, frame construction, front, side and rear elevations, projections, sections and various features of each structure, with sizes of materials plainly marked and from which drawings any ordinary carpenter easily could build the garage. Also accompanying the garage book is a separate pamphlet giving

material lists for building each of the eleven designs and which enable the dealer to accurately figure the cost of the structure, as the number of pieces, sizes and kinds of lumber necessary are set forth.



Soak Sand to Determine Concrete Strength

A NEW method of measuring sand now being tested at the Bureau of Standards of the Department of Commerce has as its object the specifying of concrete by strength required rather than by mere arbitrary proportion.

It has been found that sand varies in moisture content from 10 to as high as 50 per cent, and concrete in which such sand is used varies because of the unequal volume given by such differing percentages when the sand is put into the mixer. If the sand has too much moisture, and no attention is paid to adjusting the water volume to the wetness of the sand, the mixture will be sloppy. When set it will not be dense enough to give the necessary strength.

The tests now being conducted consist of measuring sand in a container which has been partly filled with water before the sand has been put in, so that when the sand is in the water is to the top and the sand is completely soaked. The idea behind this test is that if the sand is completely soaked uniform measuring results can be obtained, no matter how much the original moisture content of the sand may have varied.

Accordingly, once the proportions necessary to insure a given concrete strength were known, proper instructions could



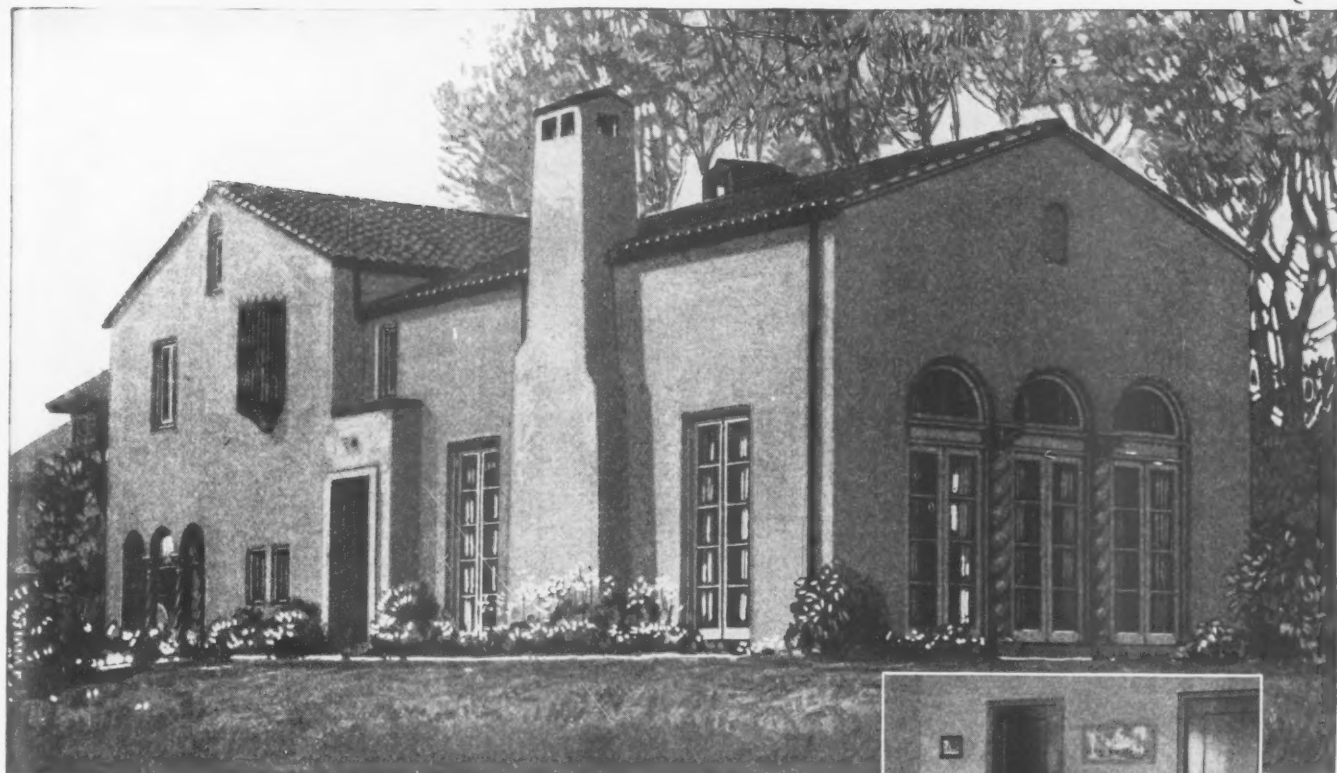
Considering Both Its First Cost and Its Life, Zinc Spouting Is Economical. Buildings in Belgium erected between 1811 and 1830 are served by the original zinc roofing and spouting. Pure Zinc is almost as soft as copper and presents no difficult problem of workability. Some simple rules must be followed for satisfactory results in zinc installations. The material is different and must be handled differently. No paint is required for protective purposes, but may be used for decorative effects.

be given at the mixer platform, with the certainty that the requisite strength would follow as a matter of course from close adherence to the specified proportions.



World's Largest Ship

THE Majestic, recently built, is the largest ship in the world. Some idea of its tremendous size may be gotten when we consider its tonnage equals that of the entire Spanish Armada which attempted to conquer England in 1588; the interior space is as large as 400 eight-room houses.



Residence of Victor Pearlman, Sheridan Road, Chicago

Clark & Walcott, Architects, Chicago

Adding Comfort by Adding a Room

The Prospective Home Owner seeks these things—*comfort, convenience and economy*. That is why the Murphy IN-A-DOR BED has a definite appeal. He knows it will give him the comfort and convenience of an extra room without extra building cost.

In the house shown here, a second-floor lounging room serves as an emergency guest room with twin Murphy Beds.

You may apply this idea to a sun room, play room or sewing room.

The Murphy In-A-Dor Bed is not a folding bed but a safe, sanitary, sleep-inviting bed. *It swings through an ordinary 3-foot door.*

Our Service Department is always at the service of builders and architects to assist in your layout problems. May we send you full information and examples of Murphy In-A-Dor installations?



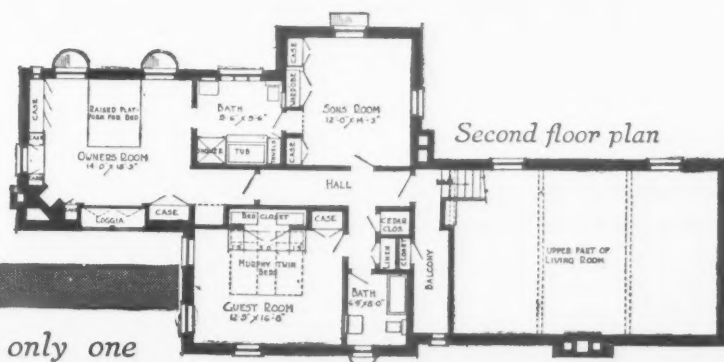
Murphy In-A-Dor Beds may be had in plain or period designs, in full sizes or twin types.

THE MURPHY DOOR BED COMPANY

Offices in all Principal Cities

22 West Monroe Street, Chicago
469 5th Avenue, New York
1534 Blake Street, Denver
912 Kresge Bldg., Detroit, Mich.
205 O'Connor St., Ottawa, Can.
Crocker Bldg., San Francisco
Chemical Bldg., St. Louis
Hoge Annex Bldg., Seattle, Wash.
1140-42 Hanna Bldg., Cleveland
1021-23 Grand Ave., Kansas City
220 N. St. Paul St., Dallas, Texas
204 Peach Tree Arc., Atlanta, Ga.
309 Third Ave. N., Nashville, Tenn.

The MURPHY IN-A-DOR BED



The Murphy Built-in Ironing Board is meeting with enthusiastic approval. Folds compactly in the wall and is always accessible. Ask about it.

There is only one

In-A-Dor Bed—"The Murphy"

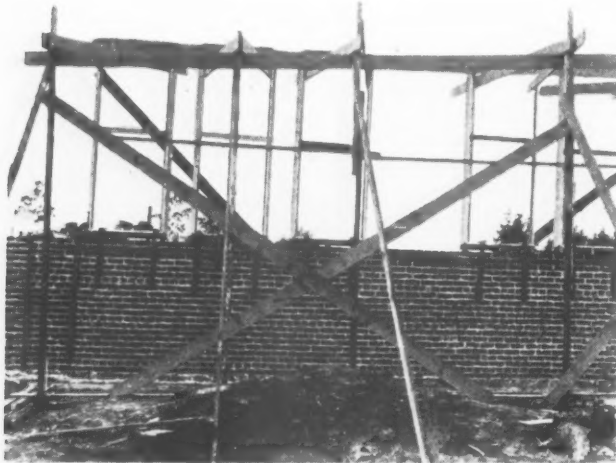
WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER

Quicker Window Setting

Builders are Finding Ways to Cut This Item of Cost

By N. A. HARRIS

WASTE is a "profit thief" in the building industry. The accompanying photograph showing installation of windows tells a story of the unavoidable waste of time, labor and material when



Large Amount of Bracing Required for Placing Ordinary Windows.

this type of window is used—a waste that robs the contractor or builder of part of his profits.

Time is a vital element in any building job and when these windows are installed, time is lost due to the suspension of the masonry work until the windows are set. The erection of braces necessary to hold these windows in place results in a waste of labor (for which wages must be paid) and material as well as time.

Many contractors have eliminated this waste by installing steel windows wherever they can be used to advantage. These steel windows are easily installed in

prepared openings after the wall is up and the roof is on. Braces are unnecessary. Hence, their use effects a real saving to the builder and contractor.

The following details, showing the prepared openings for single or multiple units, may prove of interest to the builder. The vertical section of installation in brick is shown in No. 1. Notice that the leg of the frame member extends in between the angles supporting the brick work at the head. A stone sill is used in this detail, but poured concrete may be used equally well. In that case, it will be necessary to place bricks under the sash to hold it up snugly against the head.

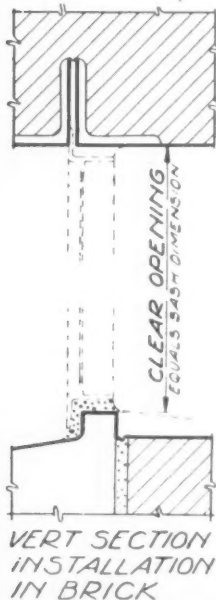


Fig. 1.

When the sill has been poured, grout in under the frame member.

The prepared openings at the jambs for single and multiple units are shown in detail No. 2 and No. 3,



INSTALLATION IN BRICK FOR SINGLE UNITS

Fig. 2.

respectively. Notice that in the single unit detail the jambs are built like the letter "L." The leg of the frame member rests against the horizontal part of the "L." Grout is then laid up the jamb, as shown in the drawing.



INSTALLATION IN BRICK FOR MULTIPLE UNITS

Fig. 3.

When multiple units (two or more to the bay) are used, a small recess as in detail No. 3 is sufficient. Grout up the jamb, as shown in the drawing. When two or more units are used, they are joined together by being bolted to vertical mullions, as shown in detail No. 4. In setting the windows, bolt them together

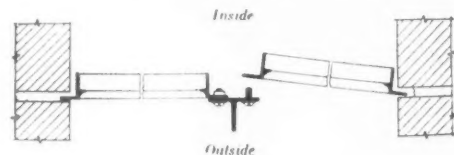


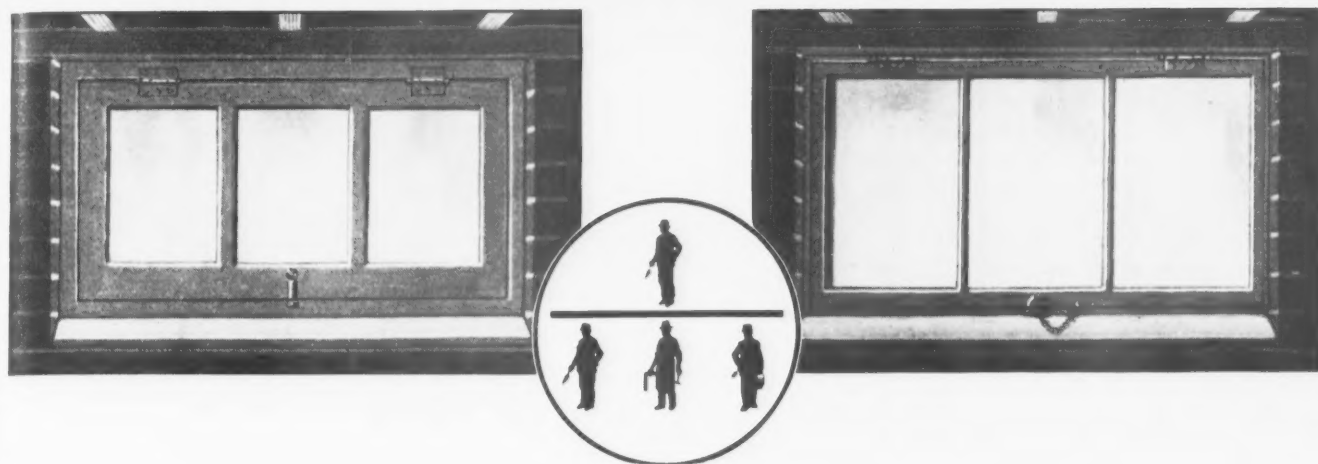
Fig. 4.

loosely until they are properly set and then fasten them securely. More complete installation details may be secured from any one of several steel sash manufacturers.



Causes of Dry Rot

DECAY in timber is attributable to many causes—sap, bad selection, insufficient or improper natural or artificial seasoning, wetness and the reverse by turns, and an entire absence of, or inadequate ventilation, or ventilation with unsuitable air.



A Better Job—in One-Eighth the Time

A Fenestra Basement Window can be installed in *one-eighth* the time, and with *one-third* the labor required to install a wood window of equal size.

This is made possible: 1st, because Fenestra Basement Windows being more compact are easier to handle; 2d, because they stand on the sill without bracing; 3d, because they come complete—locks and hinges are already attached, the sash is already fitted to the frame, and the priming coat of paint is already applied.

And a Better Job for the Owner

Fenestra Basement Windows make a better job from the owner's standpoint. They admit 80% more daylight than wood windows of equal size; they are more attractive and last longer; they are always easy to operate; they are fire-resistant and more secure.

We will be glad to send you further details and helpful literature about Fenestra Basement Windows.

DETROIT STEEL PRODUCTS COMPANY
2202 East Grand Boulevard Detroit, Mich.

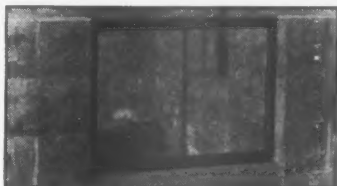
This is How it Works Out in Concrete Block



Set the Fenestra Window on the sill.



Plumb the window and build up the wall on either side.



Grout in the jambs and sill, trowel the mortar flush, and the job is done. Total time—ten minutes.

To Install a Wood Window

1. A mason sets the frame, plumbs it, and builds the wall around it. Thirty minutes. 2. A carpenter planes the sash, mortises it out, mortises the frame, attaches the hinges, mortises for the locks and attaches them. Forty-five minutes. 3. A painter gives the sash and frame one priming coat. Ten minutes. Total time—one hour and twenty-five minutes.

A Fenestra Basement Window can be installed in one eighth the time required for a wood window

Fenestra

BASEMENT WINDOWS

Fenestra

The name of the ORIGINAL steel Window.

The symbol of superior QUALITY in material, patented design, workmanship and service.

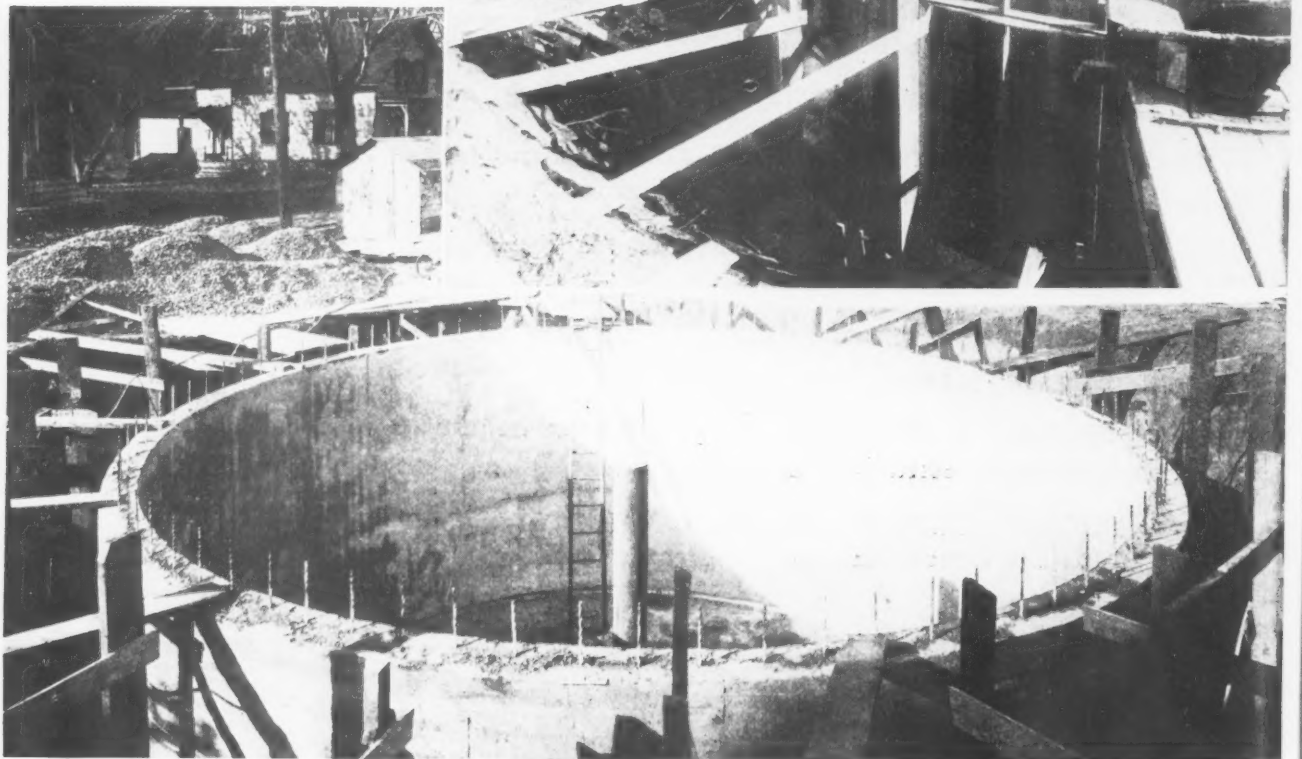
Concrete Tank for Fuel Oil Storage

IN constructing a tank of concrete for the storage of fuel oil difficulty is not found in the actual construction work but in the fact that the action of fuel oil is very disastrous to cement. How this was overcome by a manufacturer of machine tools at Greenfield, Massachusetts, is told here. He had to store fuel oil at his main plant for use in manufacturing processes.

The tank is 26 feet in diameter, 10 feet in depth, and is sunk entirely underground. A column 12 inches in diameter is constructed in the center of the tank and has a solid foundation running below the floor level of the tank. The floor of the tank supporting the wall is 12 inches in thickness and is reduced to 6 inches for the floor proper. The floor slopes toward the center and a sump one and a half foot square is in the center slightly. The side wall is ten inches in thickness and the top wall or roof of the tank is six inches thick. At one side of the roof provision was made for a manhole two feet in diameter. The cover of the manhole is cemented on. The cement work was reinforced thruout. The cement was mixed very thin from one and one-half to two parts of sand to one of cement.

The real problem in the construction of the tank was to get the right mixture of cement. Fuel oil will disintegrate ordinary cement mixture quite readily. The manufacturer building the tank found a chemical which would harden the cement mixture and at the same time fill in the small interstices so as to make a more homogeneous mass.

The track on which oil cars are switched is some distance from the tank but there is a system of piping permitting the tank car to be emptied into the storage tank by gravity. The tank has a capacity of 40,000 gallons.—ALLEN P. CHILD.



The Real Problem Faced by the Builder of This Tank Was Not the Framing for the Forms, but the Right Mixture of Cement, Since it Was to Be Used for Fuel Oil Storage. Finally a chemical was found that filled the small interstices of the concrete so as to make a more homogeneous mass, and therefore oil-proof. The chemical at the same time had the added merit of giving greater hardness to the concrete.

Novel Way of Testing Concrete

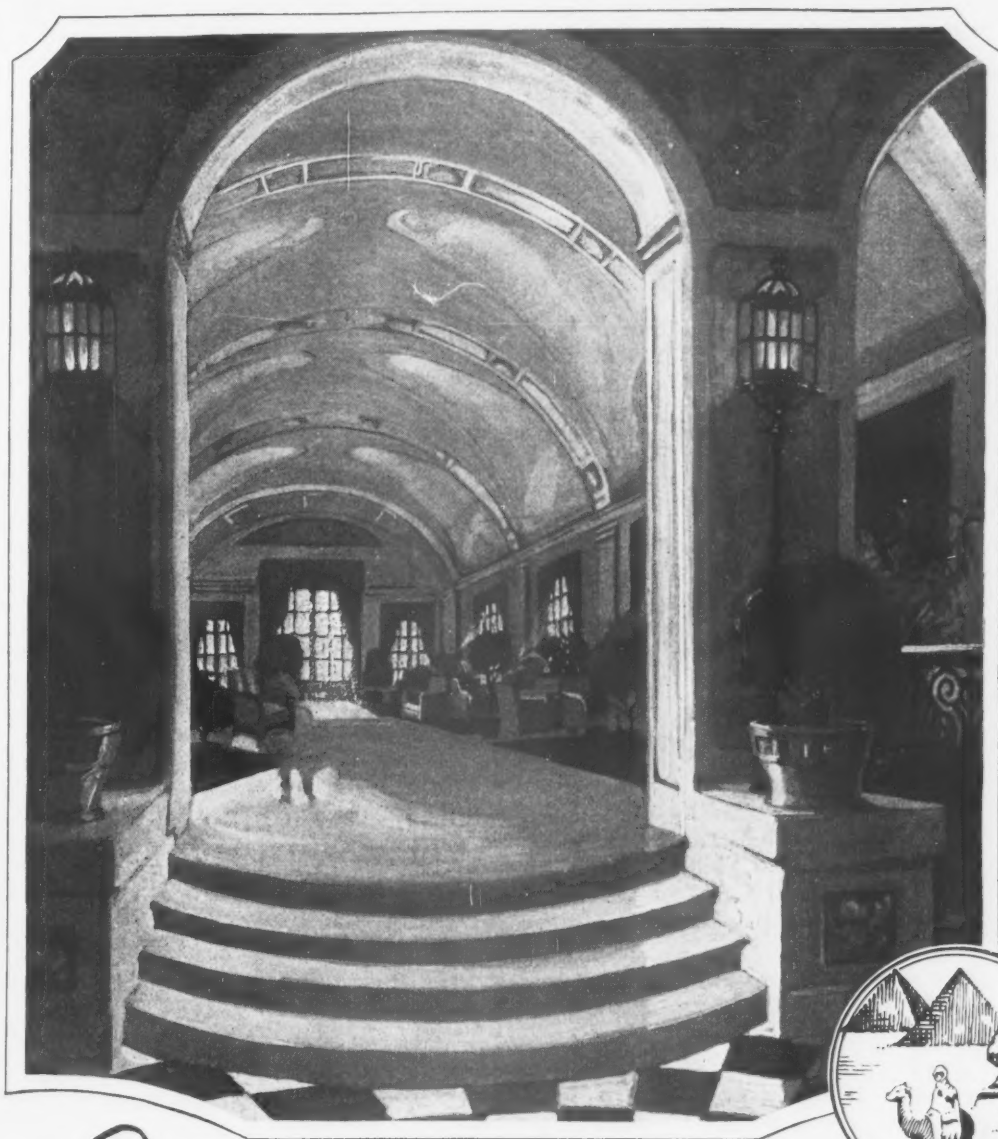
A ROAD, a quarter of a mile long laid down in the shape of a race track at Pittsburg, California, is constructed of 13 sections. Each section is of a different type of concrete pavement. They are endeavoring to find out which type will last the longest. Forty motor trucks travel continuously over its surface. It is hoped that the information obtained will more than offset the cost of the experiment.



City Zoning to Preserve Property Values

THE zoning of cities and towns is making good headway. This plan for establishing distinct residence, apartment house, business and factory sections in communities, with due regard to natural convenience and growth, is comparatively recent in origin. Over 109 cities, towns and villages have passed zoning laws—double the number that had done so a year ago.

The entire District of Columbia is zoned, to set the growth of Washington and its component parts for all time. New York comes first in the list of states having zoned cities. California, Minnesota, New Jersey and Utah, in the order of their succession, are the most progressive in this respect.



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BOOKS, BOOKLETS and CATALOGS RECEIVED



THE literature and publications listed below are now being distributed and the publishers will be glad to send copies to any of our readers who will write and ask for them.

"Foundation Walls and Basements of Concrete." In this well-prepared book, issued by the Portland Cement Association, 111 W. Washington St., Chicago, Ill., the point is made that every building should rest on a strong durable foundation and that concrete meets all the requirements, from the smallest farm building to the highest skyscraper. It gives the loads that may safely be trusted to different floors of buildings, suggests dimensions for foundation walls and footings of small buildings, methods of making earth and wood forms, and various mixtures, and is a valuable book in general for the builder and building owner.

"Medusa Waterproofed White Portland Cement" is a book issued by The Sandusky Cement Company, Cleveland, Ohio. Architects and engineers and the building fraternity generally have long realized the necessity of using waterproofing material in concrete. This book is devoted to the

description and illustration of methods and buildings wherein Medusa Waterproofed White Cement has been used, with most satisfactory results. As is well known, Medusa Waterproofed White Portland Cement consists of Medusa Waterproofing ground with their White Portland Cement in the process of manufacture and the possibilities, artistic and utilitarian, are fully entered into in this very informing book.

Proceedings of the National Lime Association's Twentieth Annual Convention. The very interesting papers and minutes of this convention, held at the Statler Hotel, Cleveland, Ohio, June 13-16 of last year, are now available in bound form. To the person accustomed to consider lime merely as a mortar base it may be surprising to learn that lime is of extreme importance in textile manufacture, indispensable in water purification and treatment, a factor in the sulphite paper industry, a water softener, a fertilizer, and without any effective rival in certain intricate phases of steel implement manufacture. The headquarters of the Association are at Washington, D. C. W. R. Phillips is secretary.

"Medusa Waterproofing" is the title of a book describing that well known concentrated waterproofing material, and issued by the manufacturers, the Sandusky Cement Company, Cleveland, O. This water-repellant substance is a compound of fatty acids chemically combined with lime which, on account of its extreme fineness, easily mixes with cement in the necessary proportions. It renders concrete or cement work impervious to water and the book is devoted to directions for use and illustrated descriptions of a few of the more notable structures in which it is being successfully used.

"Medusa White Portland Cement, Stainless," has been issued by the Sandusky Portland Cement Company, Cleveland, O., to call attention to the many proven artistic and



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"Concrete in Sea Water." This is a pamphlet reprint of a very interesting paper read at the annual meeting of the American Concrete Institute. In its original shape it was a report submitted by a committee appointed from among members of the Institute, on destructive agents and protective treatments affecting concrete used in sea water. The exact chemical actions which occur when concrete is exposed to sea water are as yet only conjectural, but this pamphlet makes some important contributions to the available information on the subject. It may be secured by writing the American Concrete Institute, Detroit, Mich.

"Variables in Concrete" is another important pamphlet reprint issued by the American Concrete Institute, and perpetuates an interesting paper read at the last annual meeting in Cincinnati, Jan. 22-25, by Walter P. Boelcher, with Stone & Webster, Inc., New York City. With present day refinement in the design and application of concrete, the principal problem of the industry is how to get predetermined uniformity of strength. The every-day construction man will find this little pamphlet giving him the sum total of much vast research and experience, and a bird's-eye view which might show him some way of applying the findings of others to his own problems in concreting. The pamphlet is to be had from the American Concrete Institute, Detroit, Mich.

"Oxy-Acetylene Welding and Cutting." This practical work, by P. F. Willis—a pioneer in the field it covers—has entered its sixth edition, a sufficient indication of the success with which it has appealed to other workers in this interesting and still comparatively new field. It leads the reader along in easy primer fashion thru all the intricacies of the process, describing acetylene, oxygen, the welding and cutting torch, the installation of the apparatus, the welding of various metals, sheet metal and piping, boilers and various other metal containers and parts, and finishes with a chapter on electric welding and welding symbols. The price is \$1.50, obtainable from the publishers, the Norman W. Henley Publishing Company, 2 West 45th Street, New York.

"Brass Pipe Plumbing" is a handsomely gotten up book published by the Copper & Brass Research Association, 25 Broadway, New York City. It tells the simple facts about Brass pipe plumbing in the plainest possible way, so that the subject matter and the illustrations are understandable by the man or woman who pays plumbing repair bills. The point made is that Brass pipe plumbing is a real money-saver.

"Beauty Plus Service in Floors" is another Southern Pine Association book which lives up to the creditable appearance and content of the informing publications issued by this progressive Association. It is devoted, naturally, to the superiority of Southern Pine for use as flooring; particularly in the narrow sizes, such as edge-grain and rift-sawn. Considering the prime quality of permanence, and the added qualities of beauty and richness and non-marring from hard use, a good case is made out for Southern Pine. The book is likewise an excellent handbook for the architect, builder or householder, as it goes thoroly into the laying and finishing of the floor. Address, New Orleans, La.

"Modern Fireplaces of Colonial Charm" is the appealing title of a book which the Colonial Fireplace Co., 4611 Roose-

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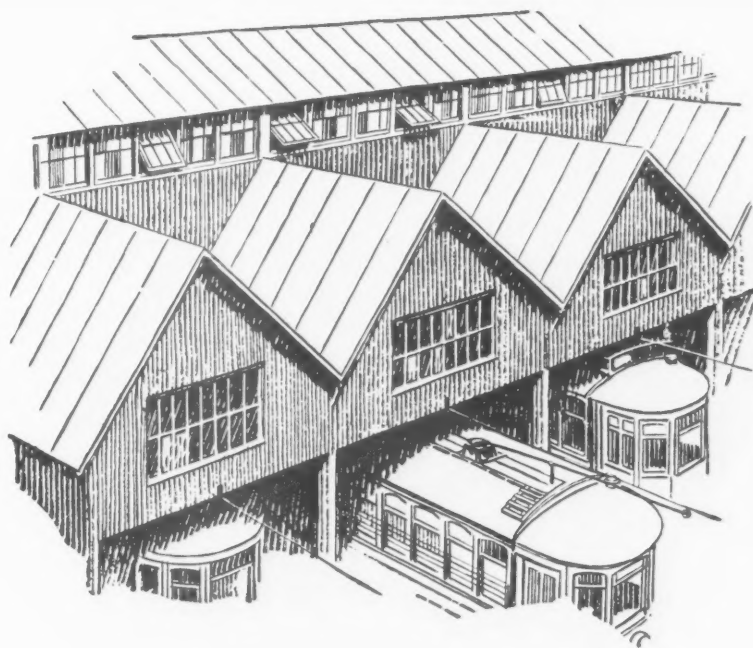
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volt Road, sends out advertising its fireplaces. After an interested scanning of these very human pages we feel that the fireplace is indeed the most important useful and decorative feature one can incorporate in a new or old house. Many stock models of Colonial fireplaces are shown, with prices, and it will surprise many who have always wished a fireplace to learn at what a low cost a genuinely artistic and utilitarian one may be obtained.

"Portland Cement Stucco," issued by the Portland Cement Association, 111 West Washington Street, Chicago, gives concrete expression to this coating material, on whose structural and artistic value all architects, builders and house-owners agree. It tells what stucco is; gives recommendations for its manufacture and use; and outlines the various finishes and pigmentations which furnish variety and shading to the completed work. Halftone illustrations of six artistic stucco finishes are shown, supplemented with cuts of many fine residences in which portland cement stucco was used for the outer finish. Many of these were old buildings, rehabilitated and made architecturally more pleasing by the use of stucco.

"Recommended Requirements for Small Dwelling Construction" is a book issued by the Department of Commerce, and which may be obtained from the Superintendent of Documents, Government Printing Office, Washington, D. C., for the small price of 15 cents. Its object is cheaper and more durable dwelling construction, and its value to the architect, builder and home owner is far beyond the nominal cost at which it is obtainable. It suggests minimum requirements which should be enforced for one- and two-family houses, in municipal building codes, and makes a radical recommendation to permit 8-inch brick and 6-inch solid concrete walls in 2-, 2½- and 3-story dwellings accom-

modating not more than two families. Eight-inch walls are suggested as being permissible when hollow block is used, provided the walls do not exceed a height of 20 feet, with an extra 5 feet allowance to the peak of the gable. It recommends the limiting of frame construction to two and one-half stories, approves metal lath, and in general gives a mass of information which one can ill afford to be without. The suggestions made in connection with changes in obsolete building codes would, if followed, save many millions of dollars for prospective builders to say nothing of reacting favorably to the benefit of architects and builders.

"Five Hundred Plain Answers to Direct Questions on Steam Heating," The Norman W. Henley Publishing Co., 2 West 45th Street, New York, N. Y. \$2.50.

The ever-changing standards of the past few years have brought many improvements in the methods of installing steam and hot water heating apparatus. Systems of heating evolved only a few years ago have been scrapped in favor of new and better types. The troublesome influence of air, the arch enemy of the steam fitter, has been overcome, and more positive methods of handling the condensation of the steam have been developed. Owing to its inclusion of all the latest changes and improvements, this work, with its brief questions and answers, and the inclusion of many tables and incidental information, offers a text book of ready reference for the student and steam fitter. It is fully illustrated, cloth bound, and ought to find working space on top of every heating contractor's, plumbing contractor's and steam fitter's desk.

"De Laval Small Single-Stage Centrifugal Pumps," with Instruction Manual, are companion folders issued by the De Laval Steam Turbine Company, Trenton, N. J. The pumps described therein are for motor or belt drive, are made in

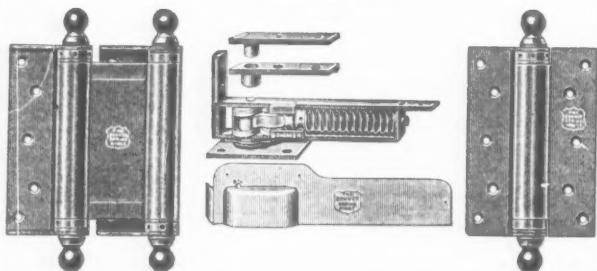
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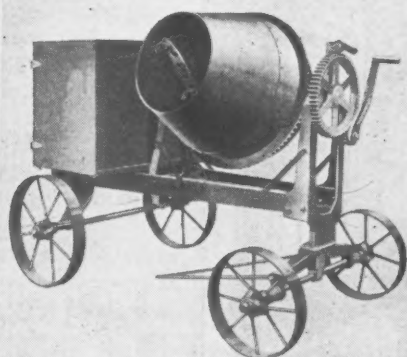
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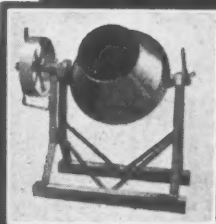
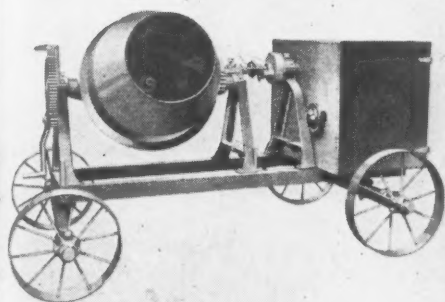
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"Door-Ways," the house publication issued by the Richards-Wilcox Manufacturing Company, Aurora, Ill., has a very informative article in its February issue, devoted to their Safety-Lock feature for porch windows, which is at the same time but part of their Air-Way window sash track. The combination of the two suggests itself at this time, when the foresighted plan ahead for storm window removal and screen installations. "Door-Ways" is a newsy little monthly visitor to have in the mailbox, many readers find.

"The Planning of Apartment Houses and Country Homes," by T. J. Van Der Bent, published by Brentano's, Fifth Avenue and 27th Street, New York, N. Y., \$4.75.

Lest the reader may look upon this book as another addition to the library of technical planning books, we hasten to remark that its title is a misnomer, and does not do justice to the purpose of the book.

It is a large, well-printed, 355-page volume, illustrated, which begins with a consideration of the rock dwellings of prehistoric times and ends with modern apartments and tenements, considering the human dwelling from the standpoint of sanitation and hygiene. Its title might well have been "The Hygiene of the Dwelling," except for its historic scope and the way the word "dwelling" has become too dwarfed and circumscribed in these skyscraper days. It is an epic of the influence of hygienic principles on man in the construction

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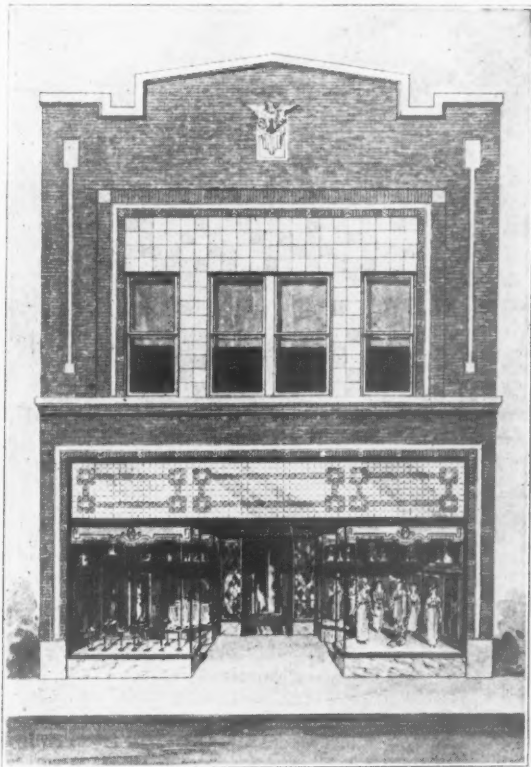
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and planning of his habitations, and shows that in advance of modern ideas on the subject of sanitation even prehistoric man often builded hygienically better than he knew.

"The Disston Crucible" is a little contrivance to melt down the big facts of Disston saw superiority and bring them before the man who uses any kind of saw. This house publication, issued by Henry Disston & Sons, Inc., Philadelphia, Pa., is now in its eleventh year. It is not large—only 12 pages, including the covers—but it contains much helpful matter to help saw thru the day's work. Any worker who appreciates good tools would like its cheery and sound optimism. Henry Disston & Sons, Inc., send it free to the man who uses saws. Get on the mailing list.

"Z-N," the Bulletin of American Zinc Institute, Inc., 27 Cedar Street, New York City, has a very instructive article in its January issue on things about zinc which a railroad building engineer ought to know. The article embodies staple queries and information which any architectural engineer and builder ought to know, however. While the public knows that zinc products are extensively used for building purposes, it is the architect, builder and engineer who give the proper, intelligent recommendations for its use, and the American Zinc Institute's Bulletin helps to keep them posted.

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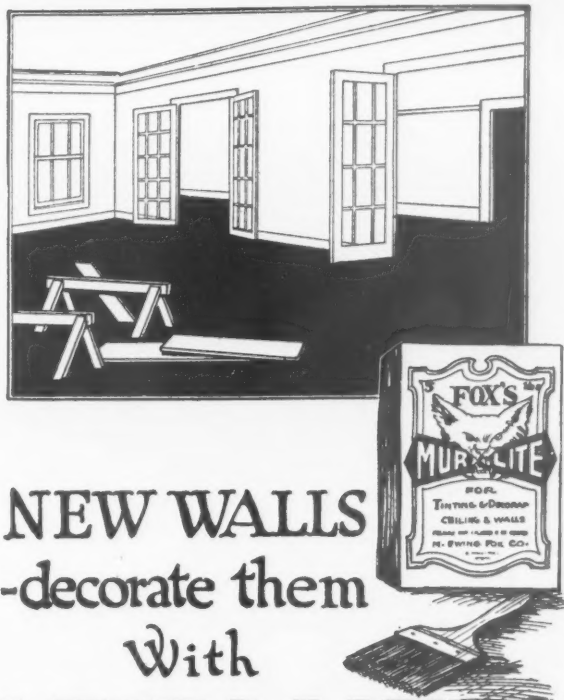
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adds a maximum of only one percent to the cost of a small home. With larger homes it is even less. The comfort and convenience of a "Minneapolis" far outweighs its cost. And the fuel it saves repays its purchase price many times over. Keeps the temperature absolutely uniform; changes to day and night temperatures automatically. Always dependable. Quickly and easily installed on any heating plant burning any fuel. Steam, vapor and hot water heating systems should be equipped with "Minneapolis" limiting thermostats on the boiler for dual control.

Specify the "Minneapolis"—don't fail to include automatic control in drawing up your plans for a strictly modern residence. Write today for booklet, "The Convenience of Comfort."

MINNEAPOLIS HEAT REGULATOR CO.

402 East 28th Street

Minneapolis, Minn.



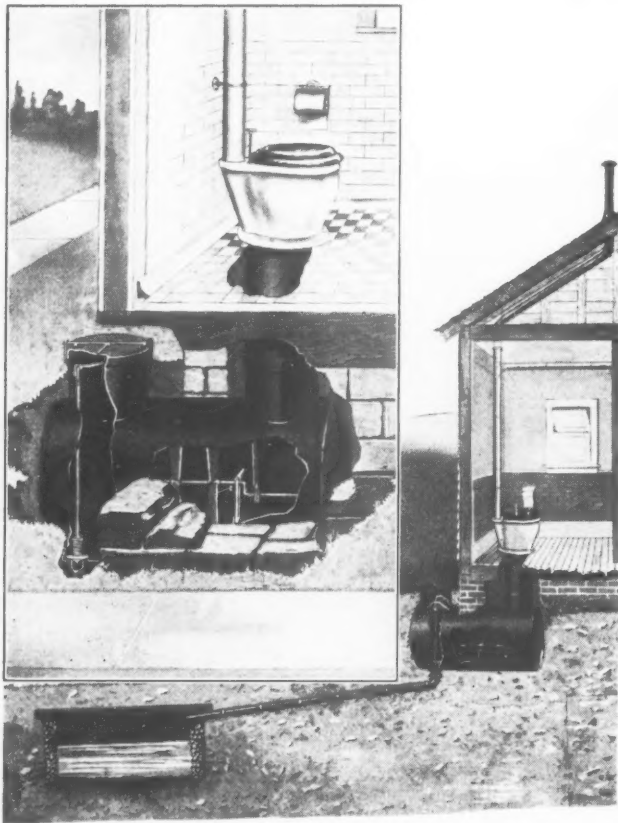
Hot Water Heating Systems— Dual Control

The No. 65 thermostat with a room thermostat is the ideal installation for hot water heating plants. Two independent sources of control—room temperature and water temperature. No overheating of the house, absolute control of boiler at all times—a uniform, comfortable temperature at a great saving in fuel. The same results are obtained by the No. 70 Pressurestat for steam and vapor heating plants.

A Perfect Indoor Toilet

Without Running Water

Inexpensive—Fool Proof—Easy to Install



Install the famous *Kaustine Waterless Toilet System*—65,000 in daily use in all parts of the world.

Sewage is completely deodorized, liquefied and drained away once or twice a year. No running water needed. Ventilating pipe carries away all odors.

GUARANTEED FOR 15 YEARS

Bowl is made of best vitreous china, attractive in appearance. Tank made of enameled *Armco Iron*, 125 gallon capacity.

First cost is very low; inexpensive to operate. *Sewerless—waterless—odorless.*

Made in all sizes. Just the thing for summer homes, farms, suburban and rural residences, schools, etc. Write for special builder's proposition; ask for booklet No. 104.

KAUSTINE CO., Inc., Mfrs. and Sanitation Engineers
BUFFALO, N. Y.

Also manufacturers of *Kaustine Septic Tanks*

Provides easy, inexpensive, complete sewage disposal for homes and buildings having running water. Made of enameled *Armco Iron*.

Special Discounts for Contractors

Kaustine Waterless Toilet Systems

Wayne Water Softeners are preferred for reasons which are both strong, and sound.

Wayne Water Softeners are unmistakably better in principle, and in design. They are better in construction. They are far more efficient, and far more economical.

Moreover, Wayne Softeners are built by a company of more than 30 years manufacturing experience, and of resources unequalled in its field. They are constructed and installed under the supervision of water softening engineers of outstanding repute in their profession.

REG. U.S. TRADE MARK
Wayne

RAPID RATE

Water Softeners

For Household and Industrial Purposes

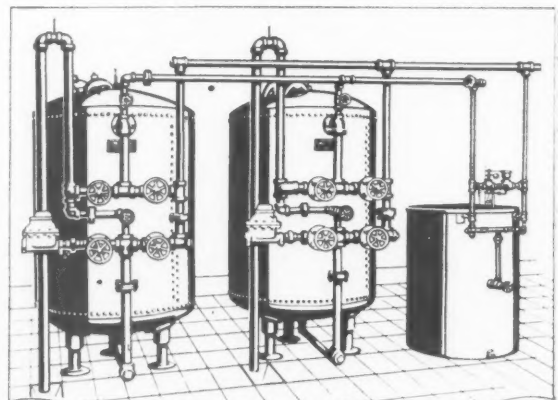
Wayne Softeners have won wide recognition for their greater capacity, and for the fact that they regenerate in 20 minutes or less. Wayne engineers are always glad to co-operate fully with the architect. Write for booklets on Wayne Water Softeners, their uses, and their value.

Wayne Tank & Pump Company, Fort Wayne, Ind.
Canadian Tank and Pump Co. Ltd., Toronto, Ontario, Canada

Division Offices in: Atlanta, Boston, Chicago, Cleveland, Dallas, Detroit, Kansas City, Minneapolis, New York, Philadelphia, Pittsburgh, San Francisco and Los Angeles

Warehouses in: Philadelphia and San Francisco

An International Organization With Sales and Service Offices Everywhere



Wayne

"WHEN A GOOD
HOUSE MEANS
THE MOST."



© S. C. M. A.
Hears. Lowe
& Hottenbacher,
Architects
Chicago

"HE WHO LOOKS BEFORE HE
LEAPS BUILDS OF CYPRESS
AND BUILDS FOR KEEPS."

Tide Water
Cypress
"The Wood Eternal"

CYPRESS "The Wood Eternal"

is one of the best of exterior trim woods. Many careful judges think it the very best of all woods for outdoor use. Its extraordinary resistance to all rot influences makes a strong appeal to the thrifty mind. Its popularity with the public is based on a growing knowledge of its worth.

Don't Forget That Good Reputations are Built on Good Recommendations. Use and Recommend

TRADE MARKED CYPRESS

SOUTHERN CYPRESS MFRS.' ASSN.



1216 Poydras Building, New Orleans, Louisiana or 1216 Graham Building, Jacksonville, Florida



BOGALUSA'S HISTORY-MAKING REFORESTATION OPERATIONS ASSURE A PERPETUAL SUPPLY TO OUR TRADE

"'BOGALUSA' STENCILED ON YOUR SOUTHERN PINE IS LIKE A CERTIFICATION ON A CHECK"

BOGALUSA

Trade-mark Registered U. S. Patent Office

can fill any order of ANY SIZE ANY TIME through your favorite retail yard, with promptness and exactness. Big Timbers for Railroad or Marine demands—or humble everyday crating, or box lumber (as well as a Complete Line of the usual yard and shed stock).

25 YEARS of CAPACITY PRODUCTION ahead of us in our own unequalled stands of THE FINEST VIRGIN TIMBER EXTANT, plus the knowledge of "BOGALUSA" products assured to you IN PERPETUITY by our far-reaching reforestation operations. You are thus protected, in the most practical way, in the complete satisfaction of your trade during the life of your business.

Superior standards of manufacturing technique, with strict grading per Factory Mutuals, A. S. T. M. and A. R. E. A., accuracy of count and a simple "good-will policy" are a few among the other factors that have made the name "BOGALUSA" indeed

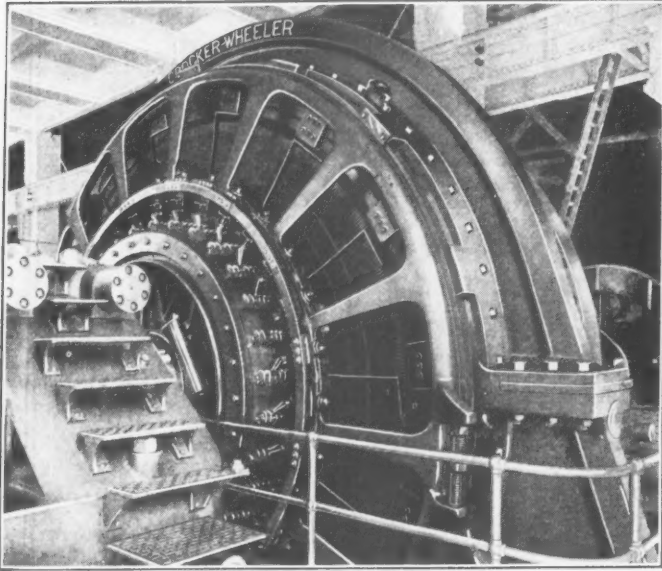
"A WORD TO BUILD ON"

Dealers: Write us for full particulars as to detailed special service on special items. Our response will be personal, candid and prompt.

SALES SERVICE DEPARTMENT

GREAT SOUTHERN LUMBER COMPANY 1600 4th Avenue, BOGALUSA, LA.

"FROM A LATH TO BRIDGE TIMBERS, SPECIFY BOGALUSA TRADE-MARKED PINE AND REST EASY"



One of the C-W Generators in the Ford Plant at Detroit

Crocker-Wheeler

Engine Type Direct Current Lighting and Power Generators

In Chicago for Example

These are a few of
the well known
Buildings Equipped
with C-W Generators

Congress Hotel and
Annex
Conway Building
First National Bank
Building
Harris Trust Building
Kimball Building
Mallers Building
McCormick Building
Lumber Exchange
Building
La Salle Hotel
Lytton Building
Otis Building
Rand McNally Build-
ing
Standard Oil Building
University of Chicago

Large buildings have adopted these C-W generators to insure satisfactory current at all times.

The sturdy, rugged construction of these machines finely built to endure, not to meet a price, and their trouble-proof features of simplicity and durability coupled with high efficiency are reasons why well known buildings are equipped with Crocker-Wheeler Direct Current Generators.

Chicago is a typical example of the widespread use of C-W Generators throughout the country. Specify C-W Engine Type Direct Current Generators. They have proven their reliability and correct design by maximum performance and minimum repairs through years of satisfactory service.

CROCKER WHEELER CO.
AMPERE, N. J.



FEBRISCO

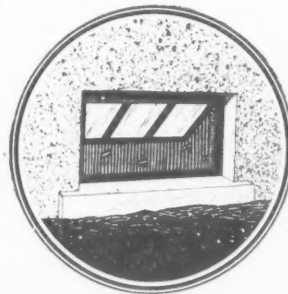
BASEMENT WINDOW



Solid Steel Sash

Basement windows framed with FEBRISCO Solid Steel Sash admit 80% more light than can be obtained with wood sash. They are more durable and long-lived, will stand abuse that would ruin a wood window. Will not stick, warp, rust or leak. Cost no more installed than wood.

Unlike most other steel sash FEBRISCO can not rack out of square, even in transit. It is made of solid rolled structural steel sections—all joints are carefully welded—hinges, catches and locks form a part of the sash itself. Made for lifetime service in a mammoth plant devoted exclusively to the manufacture of solid steel sash.

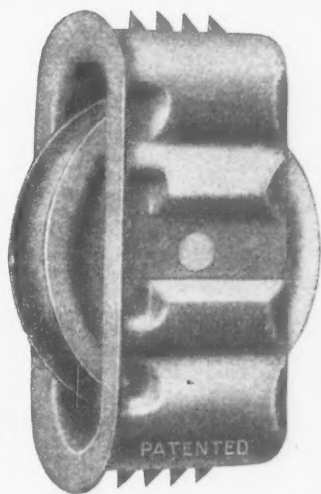


There are three styles of FEBRISCO Solid Steel Sash—Industrial, Store Front Show Window and Basement Window. For further information concerning any of them, write The Northwestern Expanded Metal Company, Chicago, Ill., Exclusive Sales Representatives.

Made by

Federal Steel Sash Co.
Waukesha Wisconsin





The "AMERICAN"
Saw Tooth Labor
Saving Sash Pulley

"AMERICAN" Sash Pulleys, made of electrically welded pressed steel parts, are strong and durable, but nearly 50% lighter than cast pulleys of the same size, and will not break in shipping or handling—a double saving on freight and breakage.

Made with plain, roller or ball bearings and with combination groove in the wheel to take either cord or chain.

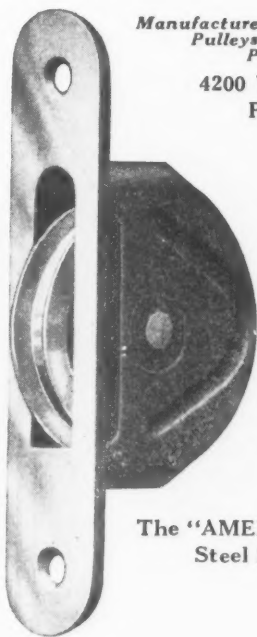
Fully guaranteed.

Write for catalog or samples.

The American Pulley Company

Manufacturers of Steel Split Transmission Pulleys, Steel Sash Pulleys and Pressed Steel Shapes

4200 Wissahickon Avenue
Philadelphia, Pa.



The "AMERICAN" Pressed
Steel Sash Pulley

How Much are YOU Paying For Your Floor Surfacing Work?

90¢
Per Hour,
More Work and
a Better Job
The American
Universal
Way

Wasted labor is wasted profit.

The Contractor who does his floor surfacing by hand is wasting profits equal to the wages of five men.



In these days of close figuring, you can't afford to have six good mechanics doing the work one common laborer can do with the

American Universal FLOOR SURFACING MACHINE

With the American Universal Floor Surfacing Machine a common laborer can surface as much floor in an hour as the six best mechanics on your pay-roll. And he'll do a better job, for the work of the American Universal Floor Surfacing machine is positively uniform—free from all imperfections, chatter marks, etc.

The difference in the cost of the job means a substantial profit on work ordinarily done at small profit or at a loss by hand.

Approximately ninety cents per hour covers the cost of labor, machine, garnet paper and electricity in surfacing floors the American Universal Way. Compare that cost with the cost of six of your best men. The difference is profit you should be getting—profit others are getting.

Surfacing Floors as a Business

Many contractors who have bought American Universal Floor Surfacing Machines for their own work have found it easy to get the floor surfacing work of other contractors in their locality and at profitable prices.

Others have built up a permanent and profitable business by specializing in the surfacing of old and new floors. In either case the sturdy construction of the American Universal Floor Surfacing Machine, the high quality of its work and its economy of operation mean substantial profits for its owners.

What the American Universal Will Do

One of the exclusive features of the American Universal Floor Surfacing Machine is the elimination of the tilting feature common to other machines.

Our machine rests solidly on its own truck wheels and the cutting depth is easily regulated with a lever on handle of machine. This feature explains why the American Universal Floor Surfacing Machine leaves no waves in the surfaced floor. There are many other important features exclusive to this machine; entirely self-adjusting; edge sander drum enables operator to finish floors flush with walls with no hand work; five-day trial offer; positive guarantee, etc.

Write today for prices and complete information on how the AMERICAN UNIVERSAL FLOOR SURFACING MACHINE can cut your pay-roll and increase your profits.

The American Floor Surfacing Machine Co.

515 South St.
Clair St.
TOLEDO,
OHIO



LOUDEN GARAGE DOOR HANGERS

Better Than Hinges—Bring You More Garage Jobs

It pays to do a good job for a customer. For instance when you install Loudon Around-The-Corner Door Hangers in a garage you give your customer convenience which he is bound to appreciate. The service he gets reflects satisfactorily on your judgment in selecting Loudon Garage Door Hangers —makes your customer a booster for you.

Save Garage Space—Prevent Auto Damage

Doors hung with Loudon Hangers hug the inside corner of the garage when opening and closing—need but a few inches of rear car clearance. Garage need be no wider or longer than to properly house car—can be built for less money—requires less building space.

Convenient. Door built in three sections, one of these being a swinging section for foot entrance—no need to shove entire door back

to enter or leave garage. This feature especially appreciated by women.

Safe. Door stands flat against inside wall when open, entirely out of way. No danger of door blowing shut and damaging car while driving in or out.

Easy Operation. Door slides open easily on roller bearing trolleys. Hangers inside, protected from weather. Door cannot be obstructed by snow, ice or trash.

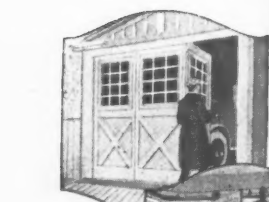
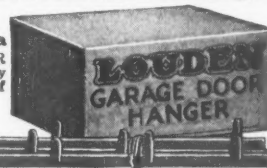
Easy to handle—Set complete in a box

All hardware for door-stay rollers, hinges, screws, nails, trolleys, hasp, staple and handles—comes packed in a stout box, with simple and complete directions for installing. Track comes securely bundled for each set. No assembling—no shortages—nothing additional to buy. Built for doors of all sizes—regularly 8, 10, 12 ft. Write at once for special literature describing this perfected garage door hanger in detail. Ask your hardware dealer for Loudon Hangers.

The Loudon Machinery Company

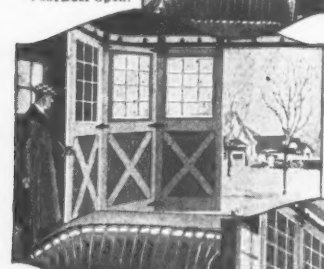
5551 Court St. (Established 1867) Fairfield, Iowa

We are originators of the AROUND-THE-CORNER GARAGE DOOR HANGER—having a side door hinged to a sliding door. Completely covered by our Pat. No. 1,184,983, dated May 30, 1916. Beware of infringements.



Opening Front Door to Enter Garage—Not Necessary to Move Entire Door.

Looking at Door End of Garage from Inside Foot Door Open.



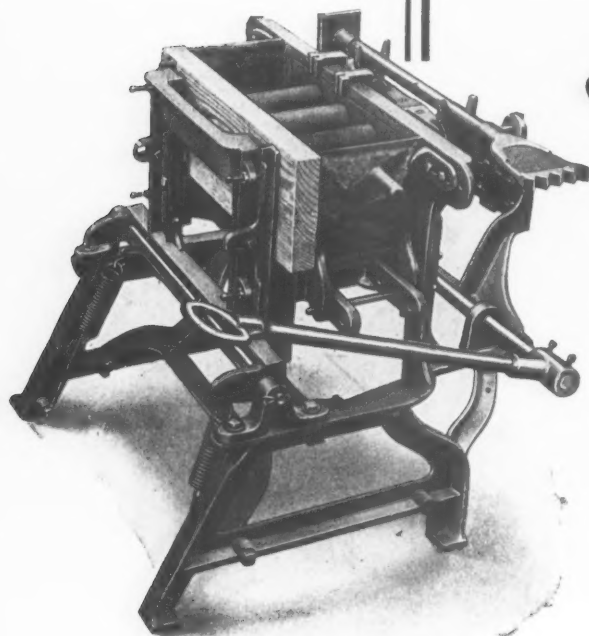
Opening Entire Door—Note How Closely It Follows the Corner—Not An Inch of Space Lost



Garage Open—Car Ready to Enter

Door Entirely Open Entire End of Garage Open.

Write for
Our New Catalog



Miles

CONCRETE EQUIPMENT

OUR policy of building the highest grade of equipment for the cement contractors has established an enviable reputation for reliability.

Added to the high quality of Miles equipment is our low prices for first cost and cost of operation. Don't fail to investigate the Miles line at once.

Before you buy this year's equipment we want you to see our new catalog and compare our prices in our quality class.

Miles Manufacturing Co.

Dept. M

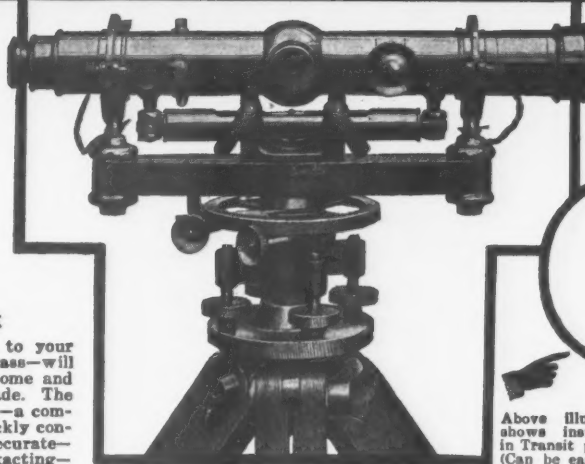
JACKSON, MICHIGAN

Level and Plumb With Your Own Instrument

500
BRINGS IT
TO YOU

Better, Quicker Work

This instrument will add immeasurably to your efficiency and put you in the big builder class—will do more to increase your business, income and prestige than any investment you ever made. The Aloe Convertible Level is the world's best—a combination of both level and transit and quickly converted to the use of either. Absolutely accurate—satisfies the requirements of the most exacting—yet so simple that anyone can use it.



Free Trial

Order the Aloe—try it for 10 days—put it to the most rigid tests. If you are not pleased, return it at our expense and your \$5.00 will be refunded.



Above illustration shows instrument in Transit position. (Can be easily and quickly converted.)

FREE
Write
for this
Book

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BIGGER
BUILDER**

Aloe Convertible Level and Transit Combined

You Learn to Use It In An Hour

No technical knowledge necessary. No previous experience needed. With our simple and complete instruction book, included free with every level, you can immediately put the instrument to work. It is a level and transit combined—takes sights either above or below the horizontal. You can use it for leveling foundations, walls, piers, streets, walks or curbs—to run straight lines for ditches or drains—boundary lines for fences or trees—surveying lots and fields—plumbing walls, shafts, trestles, posts and pillars.

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Just \$5.00 brings it to you—for a free trial. If perfectly satisfied, pay the balance in small monthly payments. The instrument will be sent at once and from the first day it will be working for you—paying for itself by saving you the cost of borrowing an instrument or the fees you have been paying other men for this work.

Write for Free Book

Our free book—"Be A Bigger Builder"—tells you how to increase your income—how to get the profitable jobs and become a bigger man in your community. Write for this book today.

A. S. ALOE CO., 621 Olive St., St. Louis, Mo.

MAIL COUPON TODAY

A. S. ALOE CO., 621 Olive St., St. Louis, Mo.

Without obligation, send me your **FREE** book, "Be A Bigger Builder". Also full particulars about the Aloe Convertible Level and details of your easy payment plan.

Name _____

Address _____

MAGNESTONE

COMPOSITION FLOORING

The Floor That Will Make You Money This Spring and Summer

The big Spring and Summer building season will start in a few weeks. This will mean many large flooring contracts that you can get. We want to show you how to prepare to handle this business and get your share of the work and profits. Don't let your competitor beat you to it.

Last year hundreds of builders got big jobs because they recommended Magnestone—the flooring with a nation-wide reputation for its high quality and durability. Magnestone Flooring is sanitary, comfortable to stand on, noiseless, easily cleaned, non-slippery and warm. When you recommend it, you win the confidence of your clients.

You Can Lay Magnestone Flooring—

in schools, stores, factories, hospitals and in kitchens and bathrooms. Laid one-half inch thick over new or old wood or concrete foundation. Trowel finished like cement. Eleven colors to choose from.

Write now for Magnestone Composition Flooring Proposition and Samples.

AMERICAN MAGNESTONE CORPORATION

DIVISION OF FLOORS

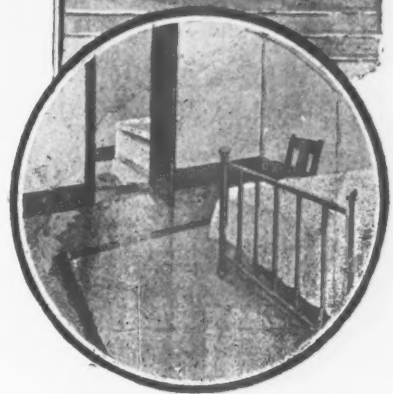
General Offices: SPRINGFIELD, ILLINOIS

BRANCH OFFICES:

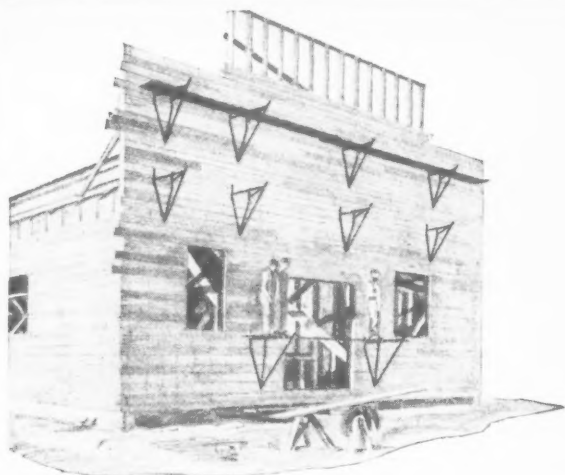
Keystone Materials Co.
5077 Grand River Avenue
Detroit, Michigan

Northwestern Magnestone Company
205 Metropolitan Bank Building
Minneapolis, Minnesota

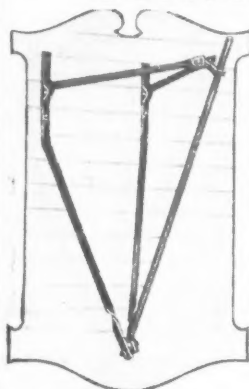
American Magnestone Corporation
201 Grand Avenue
Kansas City, Missouri



A Typical Magnestone Installation in Hospitals, Hotels, Clubs, etc.



This Scaffold can be raised 6 feet in 10 minutes



Here is a scaffold which grows with the building. You can put up a set of Reliable Scaffold Brackets as fast as you can drive four 8d nails. And you can take them down just as easily. Standing on one set of brackets, you can put up another set 6 or 7 feet higher in ten minutes.

Can you erect a wood scaffold in ten minutes? And how many times can you use your wood scaffolding? Reliable Scaffold Brackets bought seven years ago are still in service today—without a cent of repairs.

Reliable Scaffold Brackets are saving your competitors hundreds of dollars in lumber and time on every job. How much longer can you afford to keep on using wood scaffolds?

You can see for yourself how easily Reliable Scaffold Brackets work and what time and money savers they are before you pay a penny. We ship on approval C. O. D.

Sent C. O. D. on Approval Let us send you **Try 10 Days at Our Risk** one or a dozen. Give them ten days' hard use. If not all we claim, send them back at our expense and your money will be cheerfully refunded—we don't ask you to risk a penny. Use Coupon.



Reliable
Scaffold Bracket
Folded

Reliable Scaffold Brackets

Patented Oct. 7, 1910

No holes to plug after they are removed

Elite Manufacturing Co.
Dept. A3 ASHLAND, OHIO

ELITE MFG. COMPANY, Dept. A3
Ashland, Ohio

Please send me at your risk C.O.D., (if you prefer attach your check to coupon):—

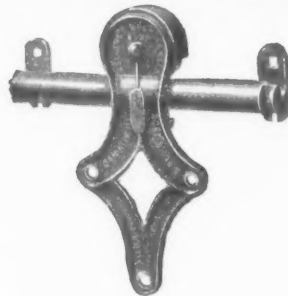
| | | |
|---|--------|---------|
| Number Wanted | Each | Dozen |
| 36" Reliable Scaffold Brackets..... | \$2.75 | \$30.00 |
| 48" Reliable Scaffold Brackets..... | 3.25 | 36.00 |
| (State whether to ship by express or freight) | | |

Name.....

Address.....

City.....State.....

Follow Suit!



"RELIABLE" Round Track sliding door hanger installations reflect highest credit on architect, builder, dealer alike * * * for the buyer demands ultimate economy, and this comes only with the selection of the finest obtainable merchandise.

We originated this type years ago * * * and since then its development has achieved a Hanger that has no equal * * * in design, manufacture, ease of installation and operation through years of service.

Allith "Approved" Fire Door Hardware (based on "Reliable" design) is also notably superior. Bumpers, binders—in fact, all units are properly **engineered** and **malleable cast** * * * standing far above the ordinary type of manufacture.

A-P "Electromatic" door operating device (which still utilizes our well known "1080" folding sliding hanger sets) for garage, warehouse and factory doors command particular attention. Fire departments everywhere are now approving this type of apparatus.

* * * You will recognize A-P goods at a glance by their exceptionally fine **finish**. * * *

Our catalog describes also other lines of light hardware and builders' hardware specialties.

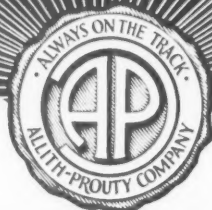
ALLITH - PROUTY

Company

DANVILLE

ILLINOIS

Of course, only our own "certified malleables" enter into "Reliable" construction, as is true of every A-P products.



The Archer Special

THE BALANCED PORTABLE MIXER

Unequalled in operating speed and as a labor saver the end discharge ARCHER SPECIAL is an all around mixer capable of making money on every job.

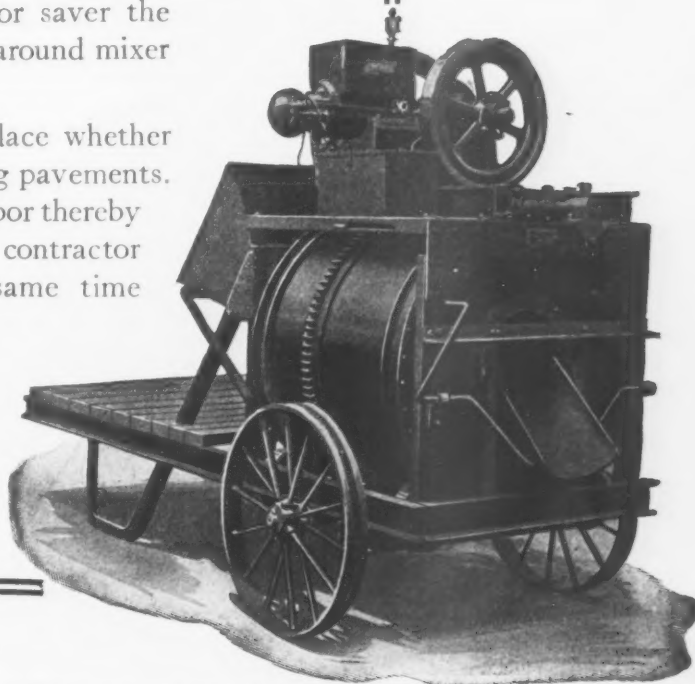
The end discharge spouts the concrete in place whether the job is pouring directly into forms or laying pavements. This feature saves wheeling, eliminates the labor thereby and speeds up the job. This enables the contractor owner to under-bid his competitors at the same time allowing a good margin of profit to himself.

One man can move the ARCHER SPECIAL with ease.

The Archer Iron Works

2438 W. 34th Place

CHICAGO, ILLINOIS



Before Buying get our newest catalog of sizes, prices and illustrations of ARCHER MIXERS on the job. It will show you some very interesting facts.

General Motors Truck

GMC Trucks meet the hauling needs of contractors and stand up well under the gruelling strain of continuous operation, because they embody the most approved engineering practices and every unit in their construction is considered from the standpoint of actual user's needs. In no other trucks will you find the many exclusive economy effecting features of GMC construction.



GMC chassis list at the factory as follows: 1-ton, \$1295; 2-ton, \$2375; 3 1/2-ton, \$3600; 5-ton, \$3950; tax to be added.

The Frank S. Kittinger Company, General Contractors, Cleveland, Ohio, are receiving excellent service from this GMC Truck

GENERAL MOTORS TRUCK COMPANY

Division of General Motors Corporation
PONTIAC, MICHIGAN

DEALERS AND SERVICE IN MOST COMMUNITIES

Where Fireproof Ambler Linabestos Wallboard Meets the Need

It's permanent, fireproof attractive, convenient. Saves plastering as well as painting.

Made entirely of two of the most indestructible materials—
asbestos fiber and Portland cement—rolled out, with pressure of 3000 pounds to the square inch, into a hard, non-warping, non-cracking wallboard of per-

manent buff color that can be worked with ordinary tools.

Made 48 by 48 and 48 by 96 to fit standard joists.

Plan to use fireproof Ambler Linabestos Wallboard for every interior lining use—partitions, wainscoting, hallways, libraries, game-rooms, attics, bathrooms, kitchens, etc.

For prices and samples, address

Asbestos Shingle, Slate & Sheathing Co. Department A

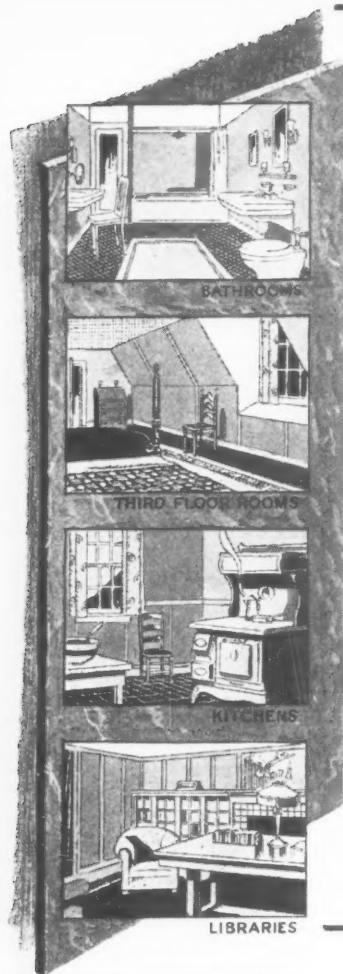
AMBLER, PENNA.

Branch Offices: Baltimore, Boston, Buffalo, Chicago, Cincinnati, Detroit, Cleveland, Minneapolis, New York, Omaha, Philadelphia, Pittsburgh, Washington, Wilkes-Barre, Toronto, Canada

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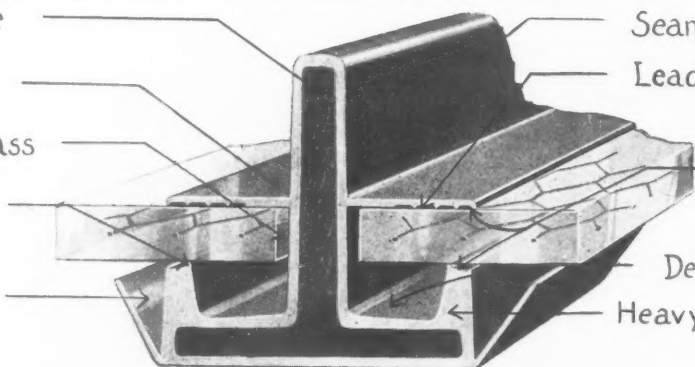
Standard Steel "T" Core

Lead Glazing Wings

Expansion Space for Glass

Knife edge lead Seat for glass

Deep Condensation Gutter of Lead



Seamless Lead Sheath

Lead Corrugations form perfect air seal

Glass held on lead by lead prevents breakage

Deep Drip Gutter of Lead.

Heavy Lead Seat Withstands Pressure.

Ends of Bars Hermetically Sealed with Lead.

STEELEAD SKYLIGHTS

TRADE MARK REGISTERED

THE EVERLASTING CONSTRUCTION

The above cross-section of STEELEAD bar shows reasons for its superiority: A steel core for strength; a lead sheath—hermetically sealed—for everlastingness. Better than best sheet metal at lower cost.

Glass breakage in STEELEAD Skylights reduced because vibration is banished. There are no clips or clamps to "pinch" the glass and start runs. Only glass and lead exposed to the weather.

Can be installed by any sheet metal man. Now specified outright by many leading architects. Write for new Bulletin L.

AMERICAN 3 WAY-LUXFER PRISM COMPANY

1307 South 55th Street
CICERO, ILLINOIS

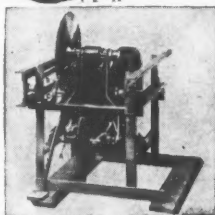
SKYLIGHT ENGINEERS

360-368 Webster Avenue
LONG ISLAND CITY, N. Y.

Connecting this Universal Tool Unit By Four Bolts

to
our

Combination Swing Cut off and Ripping Machine



Swing Unit

The swing frame of which operates by means of a foot lever for cross cutting, leaving the operator's hands free. Permits the use of saws up to twenty inches. The swing frame may be locked in stationary position for ripping, grooving, rabbetting, grinding, etc. The table is adjustable for any depth required. Our Universal Tool Unit may be added to the Swing Unit at any time, and by doing this

You have the Knickerbocker Multiple Unit Woodworker

which in connection with the sawing operations explained above, will do your jointing, boring, grooving, rabbetting, grinding, etc.

Built by

**THE KNICKERBOCKER
COMPANY**

Woodworkers—Concrete Mixers
Mortar and Plaster Mixers

520 Liberty St.

JACKSON, MICH.

$$\begin{array}{r} 16.259 \\ 13.15 \\ \hline 213.80585 \end{array} \quad \begin{array}{r} 24.67 \\ 3.416 \\ \hline 84.27272 \end{array}$$

Accurate Decimal Points

SUPPOSE you had a Scratch Pad with Decimal Points printed on it. Then when you wrote the two factors of a decimal multiplication with the whole numbers to the left of the points and the decimals to the right, the correct answer would automatically appear, *accurately pointed off*.

Such a Scratch Pad would be valuable. Accuracy of decimals is equally as important as accuracy of figures.

The Monroe Calculating Machine gives you Proven Results, *accurately pointed off*, in just the same way. As you "write" the two factors of any problem in the machine, you immediately read the Proven Answer, with the decimal point in the correct place.

Ask to see why users say "the Monroe is the finest Scratch Pad ever given a clerk." The coupon below simplifies your request.

Monroe Automatic—Marks a new era in Mechanical Calculating and Adding. A portable, electrically-operated machine for use either on desk or stand.

To Add or Multiply, simply touch the Plus (+) Bar. To Subtract or Divide, simply touch the Minus (−) Bar. The Proven Answers automatically appear.

Monroe Standard Model—Every feature of the Standard Monroe is conducive to speed with absolute accuracy. A forward turn of the crank to add or multiply; a backward turn to subtract or divide.

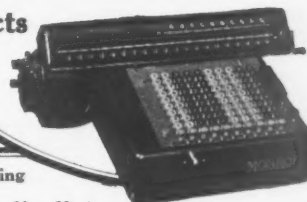
Special Models to fit individual requirements—British Currency Model, Fraction Models, etc., on which all ordinary calculations may also be performed.

There are Offices rendering Monroe Service at all Principal Points in the U. S. and Canada and throughout the World.

MONROE

Adds
Subtracts

Multiplies
Divides



The 20-Place
Automatic
Model

Monroe Calculating
Machine Co.,
Woolworth Bldg., New York

Without cost or obligation (check as desired):

☐ Send further information on: ☐ Arrange for demonstration of:
☐ Automatic Model ☐ Standard Model ☐ Fraction Models ☐ British Currency Model

Firm Name _____ Individual _____

Address _____ City _____

A. B. 3-23

"If you need a thing
you pay for it—whether
you buy it or not."

OAK FLOORS

FOR EVERLASTING ECONOMY



*Building at Culver Military Academy, Culver, Indiana
Oak Flooring Used*

Ideal for Military Schools

In such institutions, where an exacting cleanliness is the very first "order of the day," Oak Floors are the logical choice. A hot linseed oil finish, applied with large brushes, gives them a color extremely pleasing to the eye, while the oil closes the wood pores, making a surface impervious to water. This treatment permits most vigorous daily scrubbing, prevents dust from rising and increases resistance to wear.

The rugged strength and natural resiliency of Oak Floors enable them to stand up under the tramping feet of generations, giving the utmost measure of value in years of satisfactory service.

From every viewpoint—beauty, durability, cleanliness, economy—Oak makes the ideal floor for military academies, armories, colleges, high schools, hospitals, and similar institutions.

As years pass the owner will appreciate more and more the judgment which gave him the lasting advantages of floors of Oak. He will find, too, that Oak Floors have increased his sale or rental values.

Three booklets, in colors, containing accurate information on modern Oak Floors mailed free upon request to contractors and builders.

OAK FLOORING ADVERTISING BUREAU
1038 Ashland Block, Chicago, Ill.

Better Work



TO THE carpenter or builder who takes pleasure in making every job a credit to himself, the name Disston on his saws, tools, and files means better work—a saving in time, less labor and finer results. For more than eighty years Disston products have held the confidence of users because they stand for the finest, most serviceable steel and highest standards of workmanship and finish. Let them help you to do better work.

The Disston D-8 cross-cut or rip saw, made in all standard points and lengths, is recommended for all-purpose carpenter work. Disston squares, bevels, levels, screw-drivers, and files are other Disston products that assure Disston satisfaction for the carpenter. Send 4c. postage for 48-page "Disston Saw, Tool and File Book".

Henry Disston & Sons, Inc.
Makers of "The Saw Most Carpenters Use"
Philadelphia, U. S. A.

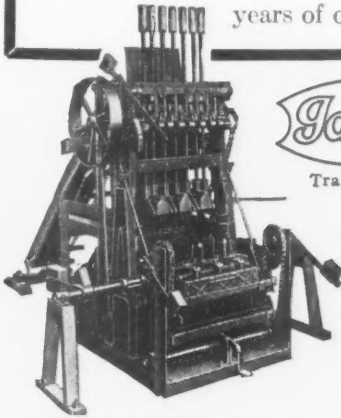
DISSTON

SAWS TOOLS FILES

March Is Here, With Spring on Deck!

It's the cue for every member of the Ideal family to get ready for a rousing 1923 business

In our fine new fireproof factory, with every facility for efficient manufacturing and quick service to the trade, we are in position to take care of your requirements BETTER than at any time during the twenty years of our history, so co-operate with us from start to finish, for mutual success.



Building Tile Machines

will give you a flying start for Spring, saving you money in your operating costs. They deliver three tile at a time on a single wood pallet, with no stopping or delays for off-bearing of tile.

Hand or Power IDEAL BLOCK MACHINES

constitute one of the well-known and justly famous Ideal products, which are practically indispensable to the builder. No better blocks can be made than are turned out by these standardized models. Ask us to send catalog, giving you valuable "facts and figures."



The Ideal Concrete Machinery Co.

5014 Spring Grove Avenue

CINCINNATI, OHIO

Export Office: 738A Knickerbocker Building, New York

Herrick--

"THE MASTERPIECE OF MASTER BUILDERS"

THE real value in a well built refrigerator is in its ability to stand up under hard use. In this respect the Herrick excels.

Herrick Outside Icing models are gaining a tremendous favor among housewives, chefs, apartment builders and others who use it season after season.

You will be making a long stride toward gaining the good will of your clients by recommending

HERRICK REFRIGERATORS

Herrick Refrigerator & Cold Storage Co.

105 River Street

WATERLOO, IOWA

REQUEST FOR BLUE PRINTS

Herrick Refrigerator and Cold Storage Co.
105 River Street, Waterloo, Iowa

Please send me free a set of Blue Prints, in the handy vest pocket size, showing dimensions and various openings necessary for HERRICK Outside Icing.

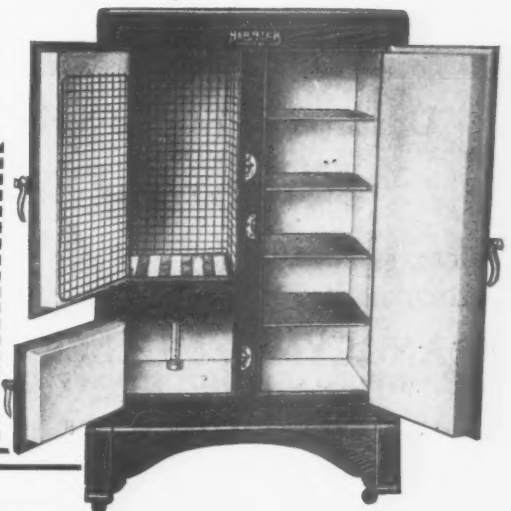
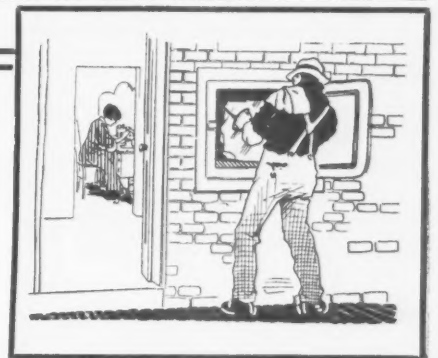
Name of Firm.....

Address.....

BUILDER or OWNER
(Scratch out one)

Name of Individual.....

City.....



WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER



A **minimum** expenditure for the container;
a **maximum** expenditure to ensure quality
of the material. Result: "The ideal ex-
terior wall covering"—ELASTICA.

ELASTICA
THE IDEAL EXTERIOR WALL COVERING

Copyright U. S. Materials Co., 1922

For particulars write

American Materials Co.
101 Park Avenue, New York, N. Y.
Art Stucco Materials Co.
12854 Oakland Avenue, Detroit, Mich.
Wisconsin Lime and Cement Co.
Conway Building, Chicago, Ill.
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Stucco of Quality

The recognition of
ASBESTONE EVERLASTING STUCCO
as the world's standard for *Magnesite Stucco*
has been achieved through appreciation of the
fact that ASBESTONE quality and service are
beyond question.

Unsurpassed in covering power, tensile strength and resiliency

Fireproof Weatherproof Durable

Prices, samples and
particulars free

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STUCCO and COMPOSITION FLOOR
MANUFACTURERS

ESTABLISHED 1906

608 Madison St.

WAUKEGAN, ILL.

Consult your
Building supply dealer





Residence of Mr. E. R. Mason, Des Moines, Iowa
Architect, C. E. Cope
Stucco on Sykes Expanded Cup Metal Lath

1923 Is a Stucco Year

STUCCO steadily gains favor as its merits become better and more generally known and as proper methods of application are more generally used.

Sykes Expanded Cup Metal Lath is the one lath that secures proper reinforcement in any type of construction, without extra labor or expense.

The "waves" that are rolled into Expanded Cup make a thoroughly self-furring lath, whether applied to a flat surface or on studs.

The wider strands and the "wave" construction give more metal per square yard, greater strength and rigidity, resist sag and spring under the load of wet plaster, and make for a better job more easily done.

You will understand the superiority of Sykes Expanded Cup Metal Lath better when you hold a piece of it in your hand. A postal card brings a sample.

Sykes Metal Lath Company
504 Walnut Street Niles, Ohio



Residence of F. J. Bannister, Hickman Mills, a suburb of Kansas City, Missouri - exterior of Redwood.

For the House Among Trees

FOR houses that trees shadow, over which vines climb and keep moisture on the siding, trim, columns and shingles—Redwood gives the longest service and keeps painting and up-keep costs down.

A natural, odorless preservative protects Redwood lumber and millwork against all forms of fungus rot and decay. Insects and boring worms let Redwood alone.

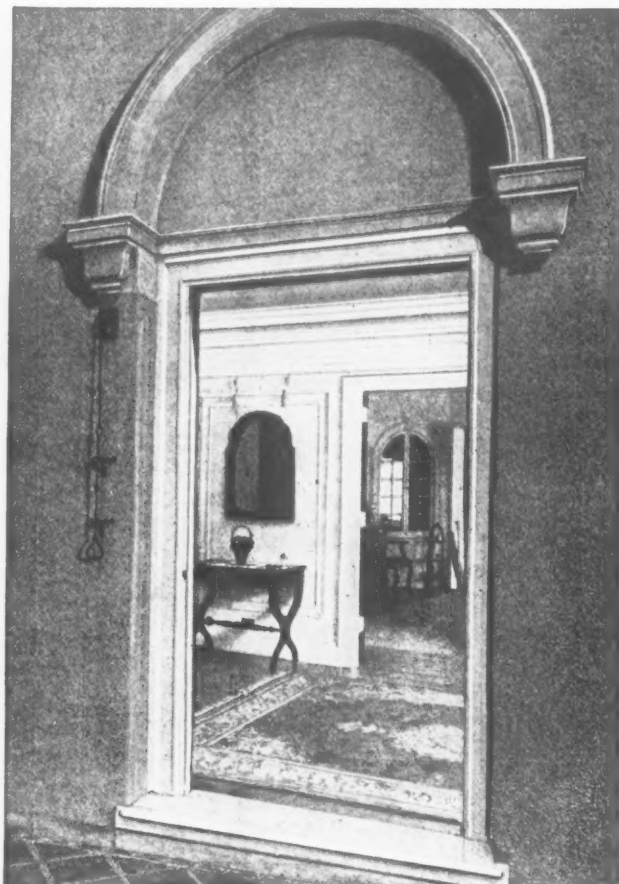
Redwood is no more expensive than other lumber of equal grades that cannot compare with it in proportion of clear lumber or resistance to rot.

Use Redwood for exterior construction. Tell your customers about it. You will find it makes houses easier to sell at good prices.

For builders and architects we have compiled a lot of Redwood information in our "Construction Digest" which we will gladly forward on request. Send for your copy.

CHICAGO 3066 McCormick Bldg.
NEW YORK 983 No. 40 Rector St. Bldg.
SAN FRANCISCO 311 California St.
LOS ANGELES Central Bldg., 6th and Main Sts.
THE PACIFIC LUMBER CO. of Illinois THE PACIFIC LUMBER CO.

The Pacific Lumber Co.
Redwood
The Largest Manufacturers and Distributors of California Redwood



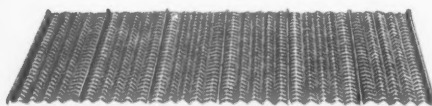
The Home That Stays Beautiful

ENDURING beauty in a home is a result of forethought. If a house has been planned with a view to permanence it reserves its interior and exterior charm indefinitely.

Nothing mars the beauty of interior decoration as unsightly plaster cracks. **Truscon Metal Lath** is assurance that your home will never have a run-down-at-the-heel appearance.

The additional initial cost of **Truscon Metal Lath** is saved over and over again in repairs and redecoration. At the same time metal lath affords fire protection.

On the exterior **Truscon Hy-Rib** is the most economical base for stucco. There are weights and types of **Truscon Metal Lath** for every building need.



Truscon Steel Company

Youngstown, Ohio

Warehouses and Representatives in Principal Cities

Heat With Fresh Air

MERE heat alone does not make a healthful atmosphere. A room continually filled with heat, if not properly ventilated, soon becomes an oven, making the atmosphere stale and stuffy.

But a room heated with gently warmed, pure, fresh air, with the stale, devitalized air, contaminated by the occupants, regularly removed, possesses an atmosphere that is both invigorating and refreshing, producing "a coolness that is comfortable". Such is the effect you get with

THE
FARQUAR
HEATING AND VENTILATING
SYSTEM

Other distinctive features of the FarQuar System are:

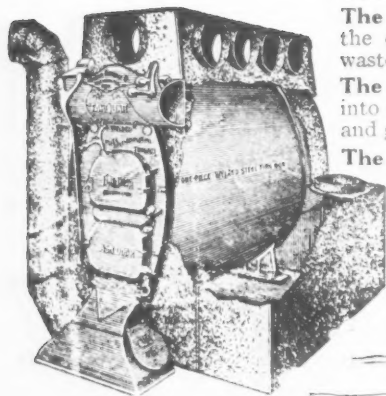
The Automatic Control, a device completely controlling the drafts, doors and dampers, preventing over-heat and waste of fuel.

The Copper-Bearing Steel Firebox, electrically welded into one piece, positively prevents escape of all fire poisons and gases.

The Large Grate Area with long smoke travel insures slow combustion and fuel economy.

Write today for full particulars and ask for free booklet telling some interesting facts about heating.

The Farquhar Furnace Company
303 FarQuar Building Wilmington, Ohio



Dealers Wanted

Responsible high grade dealers wanted as FarQuar distributors. Unusual opportunities are still open to those who can qualify. Write for details.



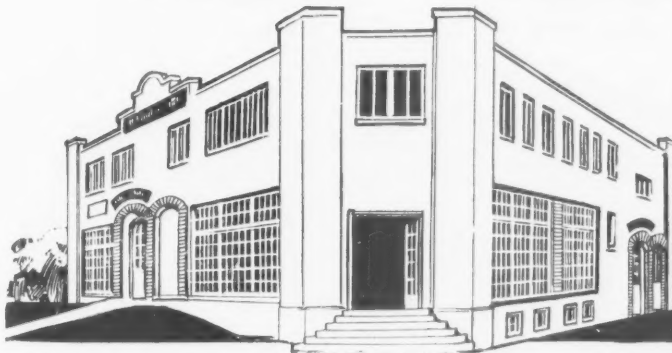
"ANTI-HYDRO" Makes Concrete Garage Floors Permanently Waterproof and Wearproof

The concrete floors and foundation in this garage are *permanently* hardened and waterproofed with "ANTI-HYDRO." The floors are so hard that they are not affected in the least by water, oil, greases or the wear from grating chains.

"ANTI-HYDRO" has been very successfully used on every type of garage from the smallest to the largest. Seventeen years ago the garage floors of the Automobile Club of America Building in New York were waterproofed with "ANTI-HYDRO." One floor, where cars are washed every day is directly over the handsomely decorated ballroom ceiling. So thoroughly did "ANTI-HYDRO" waterproof the concrete that not a single drop of moisture has ever appeared on this ceiling.

Being a liquid integral compound, "ANTI-HYDRO" mixes readily with the gauging water. No skilled labor is required. Use it on your next job for *permanence*.

ANTI-HYDRO WATERPROOFING CO. NEWARK NEW JERSEY



W. T. Hutcheson Garage, Hempstead, Long Island



Oscar G. Orford, Architect and Contractor

Skylights and Ventilators

Give the Longest and Best Service

Willis Skylights and Ventilators have many good features, gained from thirty-five years' experience in the manufacturing of high grade Skylights and Ventilators for every purpose.

The Skylights have the largest possible glass area. Designed so that very little work is required to install them either in new or old buildings.

Willis Ventilators Simple in Construction — Attractive in Appearance

Are built to give real service under all conditions. Made from the best quality, Heavily Galvanized Iron, in gauges best adapted to the size of the ventilator, made complete with bases for any pitch roof.

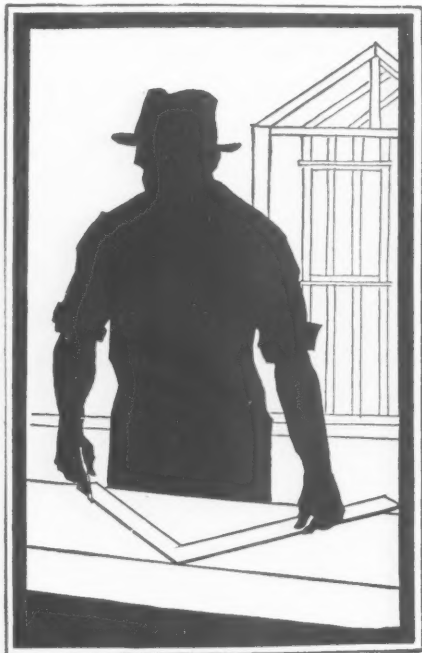
*Latest literature and prices
sent on request*

WILLIS MANUFACTURING CO.
GALESBURG, ILLINOIS



SARGENT

Tools & Hardware



SARGENT

Framing Squares

Quickly calculate the lengths and cuts of jack, valley, cripple, hip and common rafters without any figuring on the part of carpenter. They save time and are absolutely accurate. Tables of measurements are plainly stamped on the square. Even the most unexperienced workman can use the Sargent.

Known as the most dependable square by several generations of craftsmen. Write for our Steel Square Booklet which gives full particulars.

SARGENT & COMPANY

Manufacturers

51 Water Street New Haven, Conn.

A

Write your letter on this subject
**"How Starrett Tools Have Helped Me
 Most In My Work"**

Cover these points:

1. Superior features of Starrett Tools.
2. Advantages of any particular Starrett Tool.
3. Number of practical uses I have found for the tool chosen above.

Note—Contestants to be eligible must have used Starrett Tools prior to Feb. 10, 1923.
 Mail to Contest Editor, The L. S. Starrett Co., Athol, Mass., not later than April 15, 1923.

Starrett Tools

FREE

**Rules, Tapes, Builders' Tools,
 Dividers, Transits**

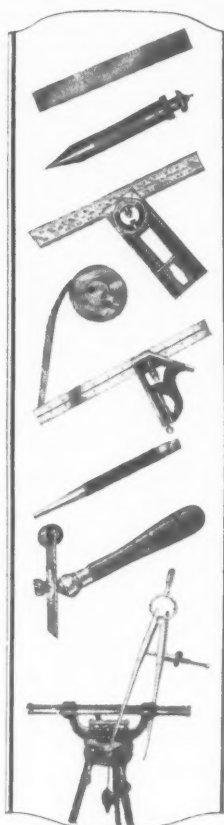
the tools you will use a lifetime! Starrett Tool users can get them **FREE** in the Starrett Prize Contest. Write us your own personal experience with Starrett Tools. (See "A" above for points to cover.) Never mind the big words—literary skill doesn't count in this contest. **Facts** will win the prizes.

474 separate prizes of Starrett Tools (sets and individual tools **of your own selection**) will be given for the best letters. Write yours **today**—any carpenter, builder or mechanic in the United States or Canada who has used Starrett Tools can compete.

Write for Catalog No. 22 "6" and the Supplement describing the new Starrett Tools.

THE L. S. STARRETT CO.

*The World's Greatest Toolmakers
 Manufacturers of Hacksaws Unexcelled
 ATHOL, MASS.*



The Starrett Prize Contest Booklet contains everything you'll want to know about the contest. Rules, description of prizes, etc. Free at any store selling Starrett Tools. Write for copy if dealer can't supply you.



Starrett

Prize Contest



Permanent Half-Timbering

You can't beat it for looks, because the surface of Ambler Asbestos Building Lumber is a restful natural gray. Paint it if you like, but it does not need painting unless you want a change from gray.

But the talking point about

Fireproof Ambler Asbestos Building Lumber

is its permanence. Made of two of Nature's most indestructible materials—asbestos fiber and Portland cement—rolled out with great pressure into enduring slabs, there is nothing about this material to rot, rust, warp or curl. Gets stronger with age. Affords complete fireproofness. Can be cut with ordinary tools.

It is supplied in flat sheets. Standard sizes 42 inches wide, lengths 48 and 96 inches, thickness $\frac{1}{4}$ inch up to 1 inch. Special sizes for half-timbering 48 inches wide, lengths 48 and 96 inches, thicknesses $\frac{1}{4}$ inch and $\frac{3}{8}$ inch. Other special sizes and thicknesses to order.

Asbestos Shingle, Slate & Sheathing Company

Department A

AMBLER, PENNA.

Branch Offices: Baltimore, Boston, Buffalo, Chicago, Cincinnati, Cleveland, Detroit, Minneapolis, New York, Omaha, Philadelphia, Pittsburgh, Washington, Wilkes-Barre, Toronto, Canada

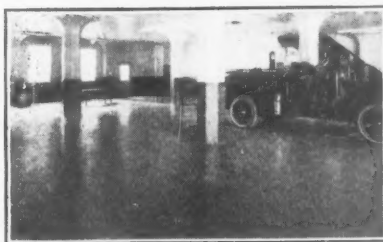
Western Distributor: J. A. Drummond, San Francisco, Los Angeles, Fresno

Southwestern Distributor: R. V. Aycock Company, Kansas City, St. Louis, Tulsa, Houston

Other distributors throughout the country



Everlasbestos Flooring in Drug Store



Everlasbestos Flooring in Fire House

Write for free sample and catalog showing how and where to sell Everlasbestos Floors.

Everlasbestos Flooring

Masons Make Big Money

laying Everlasbestos Floors. It's a comfortable, long-wearing, attractive floor, sure to give lasting pleasure and satisfaction. Every floor laid is a big boost for you.

Lay it in homes, in bathrooms, covered porches, kitchens, in factory offices, stairways, washrooms and restaurants, in stores, theaters, schoolrooms and public buildings.

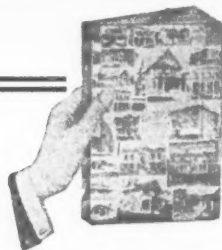
Perfect methods for laying—directions furnished—make Everlasbestos far superior to ordinary composition floors. A highly satisfactory job can be guaranteed. Our flooring is making profits for energetic masons all over the country.

Everlasbestos Flooring Co.

Dept. B

95 North S. Rochester, N. Y.





Why is This Demand for HELM Brick?

The other day a contractor dropped in on us and said: "I thought you cement brick fellows all worked about alike, but lately most of my clients are asking for HELM Brick. Why is it? Have I missed something?"

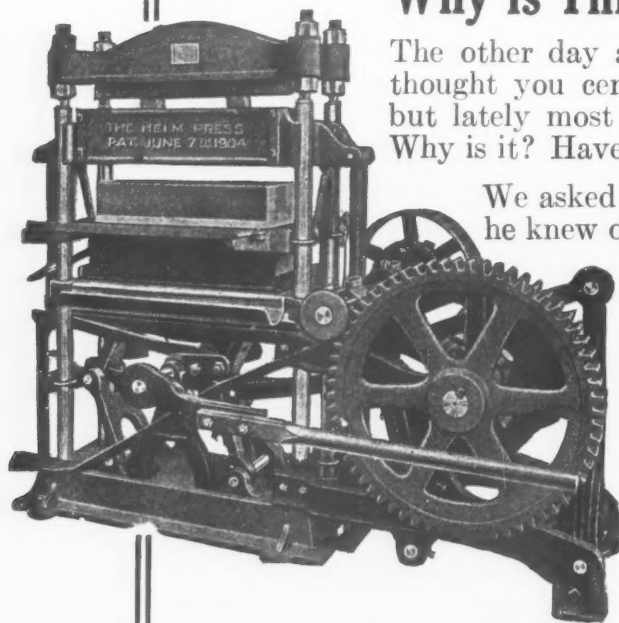
We asked him a number of questions about how much he knew of HELM Brick and in a few minutes he admitted that he had "missed something."

So now we're making a special effort to place this booklet in the hands of every live contractor and builder. It's a big job, and we'll need your help, so if you'll send along your own address that will make one less who is missing something.

The HELM Dry Wall is coming into its own.

The Helm Brick Machine Co.

972 Mitchell Street
CADILLAC MICHIGAN



Lansing • Equipment for • Cement • Contractors

EVERY contractor and builder sooner or later must realize that the equipment he uses counts about 50% in building his reputation. Being honest, he must therefore choose honest equipment. He must choose equipment whose reputation is as perfect as he would have his to be. Over a period of 42 years, during various rises and declines in the building world, Lansing has delivered quality equipment. Our reputation is at your disposal.

Specialize on the Lansing Line of Cement Contractors' Equipment.

Write to Our Nearest Branch for a Catalog

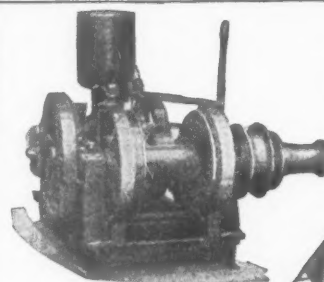
LANSING-COMPANY

22 North Cedar St.

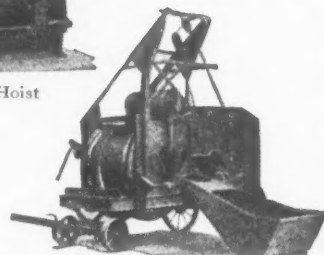
LANSING, MICH.

BRANCHES:

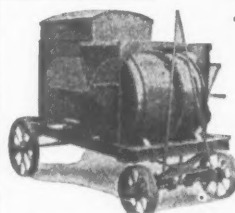
NEW YORK PHILADELPHIA BOSTON CHICAGO
MINNEAPOLIS KANSAS CITY SAN FRANCISCO



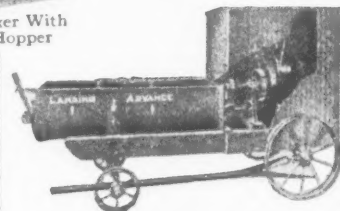
Reversible Hoist



"One Bag" Mixer With Power Loader and Water Tank



"Half Sack" Mixer With Wheelbarrow Hopper



Lansing Mortar Mixer

for • 42 • Years • the • Best

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER

"YANKEE" QUICK RETURN SPIRAL RATCHET SCREW DRIVER

THREE SIZES



Great for quick work overhead, or in close quarters where both hands cannot be used. Your dealer can supply you, or if not, write us. Let us send you the "Yankee" catalog anyway.

NORTH BROS. MFG. CO., Phila., Pa., U.S.A.

\$115

**WITHOUT
POWER**

F. O. B.
Waterloo,
Iowa

\$295

**WITH 5HP
FULLER &
JOHNSON
ENGINE**

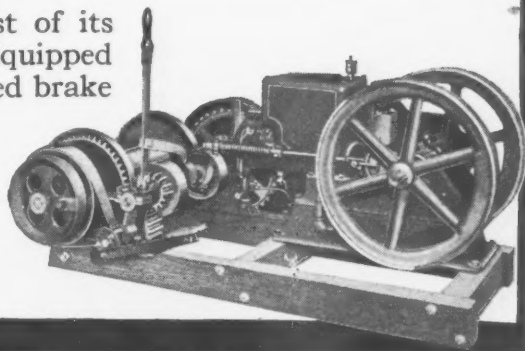
Wonder Hoists

The highest grade Reversible Hoist of its size. Simple, compact, dependable. Equipped with adjustable, positive asbestos lined brake—internal expanding asbestos faced clutch—builders' sheave.

Write today for interesting booklet.

CONSTRUCTION MACHINERY COMPANY

Formerly Waterloo Cement Machinery Corporation
103 Vinton Street WATERLOO, IOWA

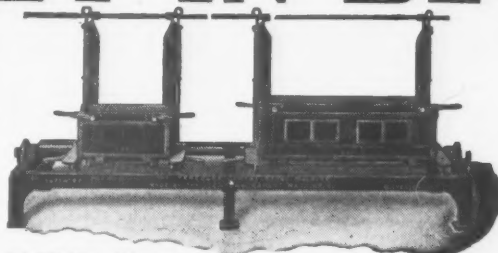


MONEY IN BLOCKS

HERCULES

Block machines make big money for builders. The wide variety of designs and sizes of concrete blocks and the strength and beauty of Hercules blocks furnish material for a complete, balanced and artistic building.

Two sixteen inch blocks in one operation makes profits roll in for the builder.



THE WILLSEA WORKS

Successors to CENTURY CEMENT MACHINE CO.
58 BROWN'S RACE ROCHESTER, N. Y.

HERCULES

Block Machines make stronger blocks with less cement. Our molds are composed of plates which are interchangeable. Therefore some plates can be used in any number of different molds. This reduces the cost of maintaining a large variety of molds to a minimum.

We also make the CENTURY Bag Cleaner. It saves cement, freight, time, labor and bags.

Write for our catalog.



No. 70 Closed

Miller, my best carpenter, volunteered to tell me of a delay.

But I'll not hear it again because then and there Miller got one half hour off to go and buy a PILLIOD Tool Case.

They're made by the

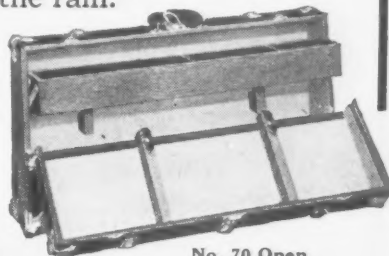
PILLIOD LUMBER CO.

Swanton, Ohio

PILLIOD CARPENTER'S TOOL CASES

"Arriving at the job—I found my plane missing, my best rip saw needed setting (that took a half hour) and those two small chisels in my overalls got rusted in the rain."

Ever hear that? I did last week when



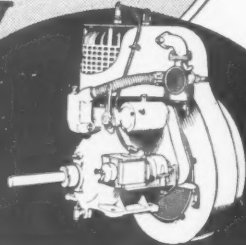
No. 70 Open

don't be misled
by your old conception
of a gasoline engine.
Consider only

The Air-Cooled, Multi-Purpose

"New-Way"

5 Engines in 1



BECAUSE of its shape and size this "New-Way" portable super-power unit will work in any place and operate any kind of machinery — portable, semi-portable or traction.

Used with a generator makes possible the operation of electrical construction equipment—drills, floor surfacers, welders, field telephones, spot and flood lighting and many others. Contractors use this unit in remote places to do jobs

heretofore impossible. Variable control, 2 to 5 horsepower. Weight, ready to mount on any equipment, 248 lbs. Write for Circular C-22.

If you have a power problem let us help you work it out. It incurs no obligation on your part. A letter will bring our traveling engineer to your office.

The "New-Way" Motor Company
Lansing, Michigan, U. S. A.
Eastern and Export Office
Woolworth Building New York

ROOF-TILE

MANUFACTURE this attractive product in your locality. Scores of Plants are now making Walter Concretile. Big profits are possible with a small initial investment.

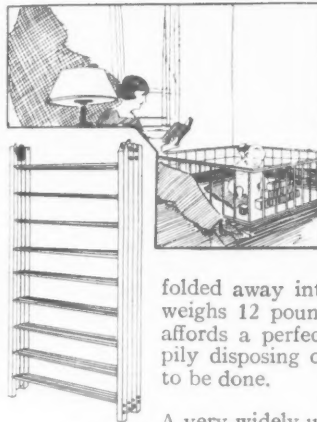
Our machines are easy to operate. Hundreds of Walter Concretile machines are in use by some of the largest contractors in this country. The average roof-tile plant will have only \$5,000 capital invested.

Write for details to either the
Crawfordsville Foundry Co.
1607 Merchants Bank Bldg. Indianapolis, Ind.

OR

Anchor Concrete Machinery Co.
530 Dublin Ave. Columbus, Ohio

National Champion Products



Necessities to Help Lighten
Mother's Heavy Burdens

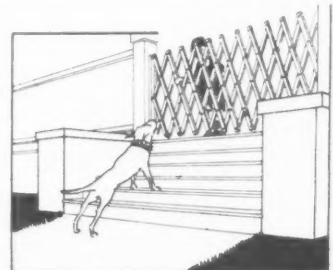
Porch Gates
Baby Play Yards
Baby Toilet Seats

The popular **BABY PLAY YARD** is strongly built, cannot tip over and is quickly folded away into a neat, compact bundle. It weighs 12 pounds. The **BABY PLAY YARD** affords a perfectly safe, practical way of happily disposing of the baby when there is work to be done.

A very widely used and much needed device is this **PORCH AND SAFETY GATE**. Every home where there are children needs this gate to insure the safety of the little ones. Each section is riveted securely, and will not warp. Made in four sizes, all 35 inches high.

Get Our Latest Folder
and Prices

The-Holmquist Swanson Co.
2754-2756 W. Superior St.
CHICAGO - ILLINOIS

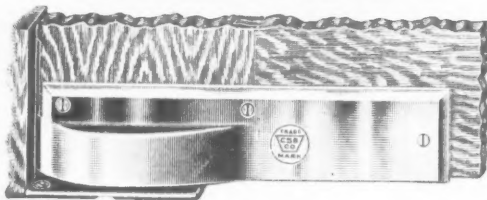


TRADE

CHICAGO

MARK

SPRING HINGES



Appearance — Economy — Durability
The "AJAX"

In the "Ajax" we offer a Floor Spring Hinge with Ball Bearings at the top of the Hinge, away from dust and moisture. **Alignment Adjustment** that is easily accessible. **Roller Bearings** for the piston, to overcome friction. **Durability, Economy and Appearance**, backed by our **REPUTATION**.

Send for Catalogue C 36.

Chicago Spring Butt Company

CHICAGO

NEW YORK

On Easy Monthly Payments

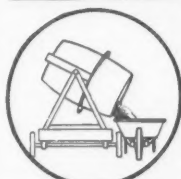


Let This Mixer Pay for Itself While It Works for You

Don't put off getting that mixer you've needed. I'll sell you this handy concrete mixer, completely equipped with truck and engine, on easy monthly payments that will enable you to use it, and pay from the profits that it makes for you.



FILLS ON ONE SIDE



DUMPS ON THE OTHER

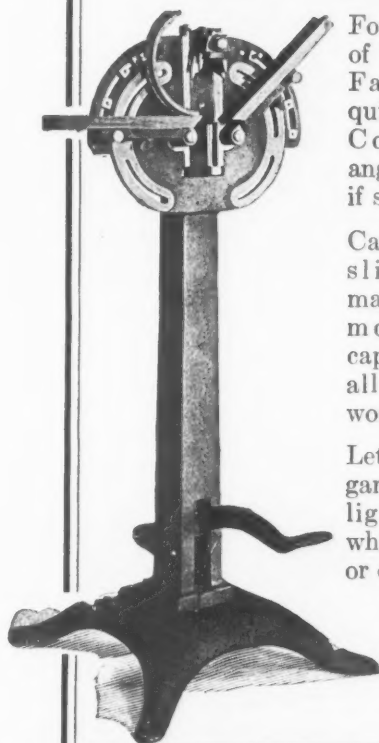
ELMCO HANDY CONCRETE MIXER

Made with steel or wood barrel. Dumps from either side. Has a powerful 2 hp. gas engine, all mounted on a stout truck. A practical portable mixer for small concreting jobs. Thousands of ELMCOs are in satisfactory use.

Write For My Monthly Payment Offer and complete descriptive matter and pictures of the ELMCO line of handy mixers.

E. F. Elmberg Company, Inc.
60 Main Street Parkersburg, Iowa

The AMERICAN SASH TRIMMER



For making all kinds of Divided-Light and Fancy Sash in the quickest possible time. Copes bar at any angle and leaves tenon if so desired.

Can furnish extra sliding head which makes a portable mortising machine capable of handling all medium sized work.

Let us advise you regarding your divided-light construction whether in windows or doors.

MANN CORPORATION

KANKAKEE ILLINOIS

You need this mortiser in your shop

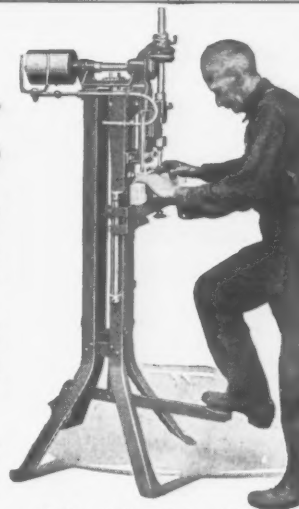
ALMOST every job you do you need a Parks Mortiser and Borer. Handiest machine in the shop. A high-grade, guaranteed machine that will last your lifetime.

Makes mortises any size by repeating the cut, and up to three inches deep in one cut. Bed plate adjustable up and down and tilts to 45 degree angle.

Built for fast, accurate work. Adjustable to compensate for wear. Strong, rigid, electric-welded frame. 1 H. P. motor runs it.

Write for complete catalog of Parks Woodworkers describing this and other separate and combination machines.

The Parks Ball Bearing Machine Company
Fergus Street & C. H. & D. R. R. Cincinnati, O.
Canadian Factory: 200 Notre Dame East, Montreal, Can.



Parks Hollow Chisel Mortiser and Borer
Guaranteed 10 years
\$90
f. o. b. Cincinnati

7-23

PARKS WOODWORKING MACHINES

BUILDING TRADES HAND BOOK



Only \$1

409 PAGES. 263 ILLUSTRATIONS.

A reference book for every man connected with the building trades. Contents:—

Blue Prints, Weights and Measures, Formulae, Mensuration, Geometric Drawing, Structural Design, Materials of Masonry Construction (stone, brick, terra cotta, lime, cements, sand, mortar, concrete), Carpentry and Joinery, Roofing, Steel Square, Plumbing, Heating, Estimating, Architectural Design, etc.

Thousands sold. Complete—practical—thorough. Easy to understand. Pocket size.

Just fill out the coupon below—slip it into an envelope with a dollar bill and mail, and this 409-page Building Trades' Handbook will come speeding to you by return mail.

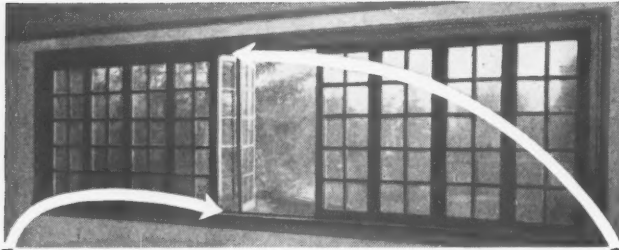
You run no risk. Money back if desired.

TEAR OUT HERE
INTERNATIONAL CORRESPONDENCE SCHOOLS
Box 8156-B, Scranton, Penna.

I enclose One Dollar. Please send me—postpaid—the 409-page Building Trades' Handbook. It is understood that if I am not entirely satisfied I may return this book within five days and you will refund my money.

Name.....

Address.....



Whitney Windows Are Stormproof!

They're absolutely weather-tight when closed. They can be opened up to permit full sweep of the breezes and wide unobstructed views. They never rattle, stick or slam. They're more practical and satisfactory than ordinary sliding windows.

Do away with kicks and comebacks—build prestige in your community—by installing Whitney Casement Windows.

Write for full information

WHITNEY WINDOW CORPORATION
15 South 6th St. Minneapolis, Minn.

ROCBOND EXTERIOR STUCCO

This superior stucco bonds on all building bases equally well and may be applied under all **conditions** regardless of time, season, or temperature. It is free from all ordinary stucco weakness.

If Rocbond is not represented in your community, a postal request will bring you full details of this easy-selling, profit-making, weather-resisting, non-cracking, easily-applied stucco. Address nearest plant.

THE ROCBOND COMPANY

PLANTS

Van Wert, Ohio—Cedar Rapids, Ia.
Harrisburg, Pa.



"OHIO" CONCRETE MIXERS

Built Strong to Last Long—Built Right to Mix Right

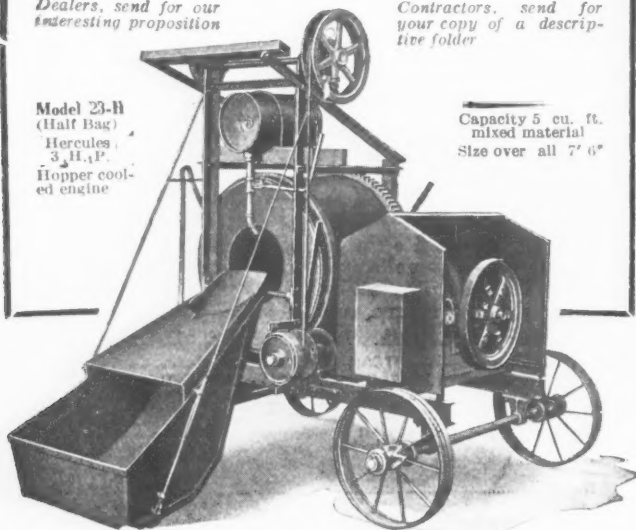
Yes, a better concrete mixer that suits the purse and purpose of contractors everywhere. Constructed of over size material throughout, the OHIO will withstand years of use and abuse.

THE OHIO CONCRETE MACHINE CO.
129 East Columbus St. COLUMBUS, OHIO

Dealers, send for our interesting proposition

Contractors, send for your copy of a descriptive folder

Model 23-H
(Half Bag)
Hercules
3 H.P.
Hopper cooled engine



Capacity 5 cu. ft.
mixed material
Size over all 7' 6"



FOR HOMES, ARCHITECTS AND BUILDERS

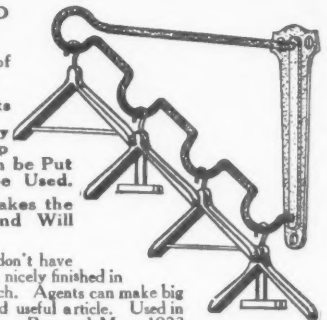
If You Want to Get Full Benefit of Your CLOSET SPACE Use the Compact Clothes Hanger Brackets

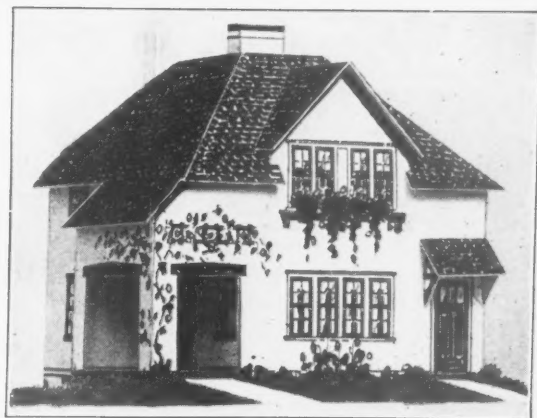
They Keep the Suits Apart. They Save Time and Space. They Keep Your Clothes in Order. They Can be Put anywhere Clothes Hangers Can be Used.

Put One on Your Closet Door—it Takes the Place of the Ordinary Hook and Will Accommodate Four Hangers.

If your hardware or housefurnishing stores don't have them, will send direct to your door, postpaid, nicely finished in nickel with screws to match. Price, 25c. each. Agents can make big money in their spare time selling this new and useful article. Used in every home. Write for particulars. Patented May, 1922

Compact Clothes Hanger Bracket Mfg. Co., 1205 C St., Washington, D. C.





SEE YOUR HOME BEFORE YOU BUILD

A MINATURE of the home you plan to build worked out in exact proportion. You can now be absolutely certain that your finished home will be exactly as you plan it.

Send for our plan book "Small Homes of Character," containing 50 examples of 4, 5, 6 and 7 room homes. Plans, specifications, bills of material and cardboard models in color available for each house.

We Will Make Models of Your Plans

Our plan book "Small Homes of Character" sent postpaid for \$1.00

ARCHT. HOUSE PLAN. SERVICE CO.
20 S. 18th St., Philadelphia, Pa.

USE FULLER & JOHNSON EASY TO START ENGINES

EVERY CONTRACTOR REALIZES the necessity of good, reliable power on the job. That's the reason their choice is the FULLER & JOHNSON Model "N" gasoline engine. It is the engine that's absolutely dependable. Therefore, whether buying an engine alone or as part of an outfit, contractors specify the FULLER & JOHNSON Engine. This also explains why leading manufacturers of combined power driven outfits have adopted the FULLER & JOHNSON Engine as standard equipment. Write for catalog 21A.

Let your next engine be a FULLER & JOHNSON
ONCE AN OWNER — ALWAYS A BOOSTER

FULLER & JOHNSON MFG. CO.

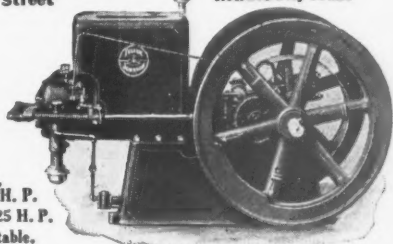
Established 1840

30 Alma Street

Madison, Wis.



Built in sizes.
1½, 3, 5, 7, 9, 12 H. P.
Other models up to 25 H. P.
Stationary or Portable.



This engine fills the contractors' requirements.

EASY TO START

BIG PROFITS

Are Made By Carpenters and Contractors Handling

Maher's Copper Cable Lightning Rods

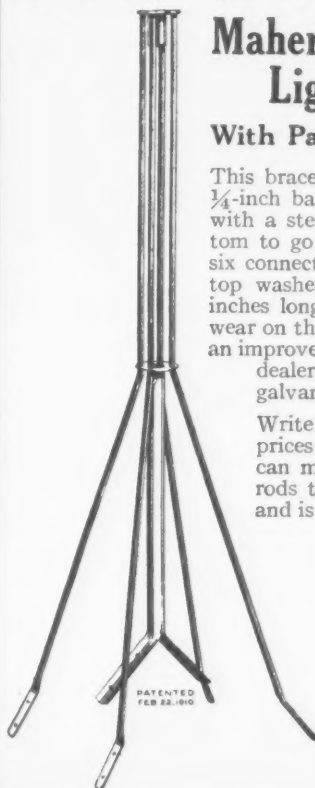
With Patent Four Leg Brace

This brace is made with four legs of ¼-inch basic steel rods 36 inches long, with a steel tube that is split at bottom to go over comb of roof, making six connections at this point. In the top washer we have a steel tube 2 inches long which does away with any wear on the copper tube at this point, an improvement that any lightning rod dealer will see at a glance. Hot galvanized after being made.

Write today for catalogue and prices and you will see how you can make big profits on lightning rods that have patented features and is different from other makes.

**Maher
Manufacturing
Company**
PRESTON, IOWA

Our goods have been inspected and passed by the Underwriters' Laboratories, making insurance cheaper on buildings where our cables and fixtures are used.



Are You the Man?

Here is your opportunity to establish a business or increase your profits.

We need men in every locality to maintain a selling and installing agency for the Sager Metal Weatherstrip.

Not necessary to be a mechanic, but must be a good salesman. Sager Metal Weatherstrips reduce the coal bill ¼; therefore the demand is universal. It is easy to hire mechanics for installation.

We furnish prospects as well as advertising literature.

It is an unusual opportunity—Are you the man?

ACT NOW—Mail the Coupon Today.

**Sager Metal
Weatherstrip Co.**

162 W. Austin Ave.

Chicago

Sager Metal Weatherstrip Co.
Please send Agents offer.
Name _____
Address _____

G. & B. Convertible Levels

These instruments are of **High Grade Workmanship** and perfection and absolutely guaranteed. With our instruments you can measure the approximate heights of any building, mountain, tower or electric wiring, which you would have to know in order to proceed with your work, and our instruments will give you this service, and this in addition to all other features of Transits and Levels combined, such as lining up walls, mapping building lots, **determining angles**, **finding angles** for irrigation, foundations, draining, and a hundred other uses.

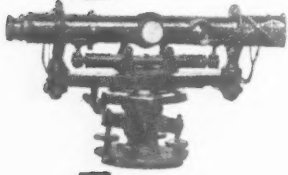
10 days' trial and easy payments. Send for Circular C.

GEIER & BLUHM, Inc.

670 River St.,

Troy, New York

G. & B.
Transit-Level
Pat.



Add Pep to Your Hardwood Flooring Sales



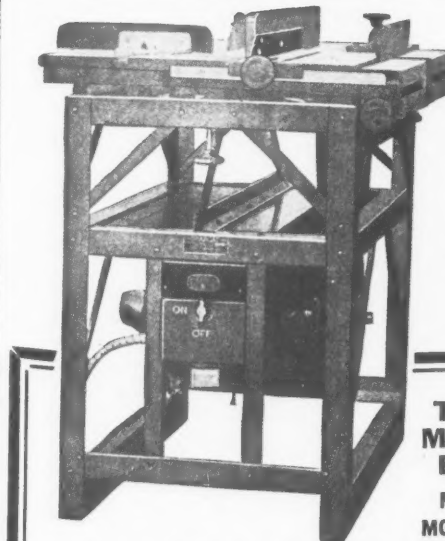
Hardwood Flooring is desired by every home owner and home builder. Go a step further, put yourself in an exclusive class. In many of the medium and large cities large floor laying firms have a very profitable business doing nothing but handling our beautiful parquetry flooring. Probably 75% of this product is used in old residences.

Our colored catalogue and our book showing installations all over the continent would enthuse any owner. There is a profitable business for you right in your own locality.

Don't put aside this incentive to profitable flooring sales, but send now for our beautiful catalog showing parquetry and flooring in natural colors.

WOOD MOSAIC CO., Inc.
NEW ALBANY, IND.

THE BEARCAT MAKES YOUR PROFITS CLIMB



This is Our
MODEL R-L BEARCAT
MEDIUM SIZE
MODERATE PRICE

Solve Your Spring Business Rush and Your Labor Shortage With "BEARCAT" PORTABLE WOODWORKING MACHINES. The Ideal Machines for Lumber Yards and Contractors. Fabricated Steel Frames. Built-in Electric Power. They are Strong and Rigid, and Run Without Vibration. Entirely Self-contained, and Easily Handled Dependable, Powerful and Efficient. Economical to Buy. Furnished with or without Jointer.

"THE BEARCAT PAYS ITS WAY EVERY DAY"

Ask for Catalogue M

It meets all requirements of builders who demand a medium sized machine. It does your work rapidly and efficiently. It is simple in design, easy to operate, easily portable and in a class by itself when it comes to economy. About seven cents per hour pays the bill for current.

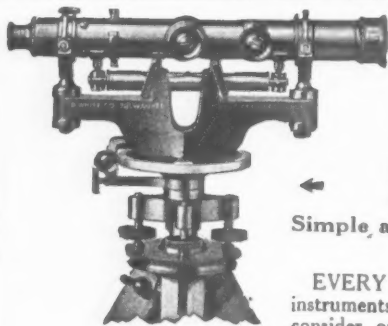
THE BEARCAT

pays for itself in labor and material saved. Your work goes faster, your scrap pile is smaller and your profits are greater.

The many operations within the range of the BEARCAT are too numerous to mention in this space, but our circular sent upon request will give you complete information on the construction and performance.

Write for it today.

THE PAXSON COMPANY, DOWAGIAC, MICHIGAN



No. 2020

White's Improved Convertible Level

USED AS A LEVEL And Ten Seconds Later AS A TRANSIT

Simple and Dependable—No Loose Parts—Nothing to Get Out of Order or Adjustment

EVERY Contractor, Architect and Builder should own one of these modern instruments. EVERY Engineer, Road Builder, and Drain Layer should consider one a part of his regular equipment. Write for our circular. Ten Days' Free Trial.



David White Co., Inc., 904-914 Chestnut St., Milwaukee, Wis.

What Customers Ask About Wall Board

Does it take any decoration? Compo-Board does. It takes any of the popular coverings—wall paper, burlap canvas; or it may be painted or kalsomined.

Does it require panels? Compo-Board does not. **Compo-Board Filler** is especially prepared to fill the joints and nail heads.

Does it keep out the dampness? Compo-Board is practically impervious to moisture, and its wood core makes it one of the best insulators known against heat and cold.

Will it crack or warp? Compo-Board will not crack, crumble, shrink, warp or buckle.



Compo-Board

Trade Mark

The Wood Core Wall Board

is the only wall board that has ALL of these advantages.

*Write for interesting booklet,
directions for using and sample*

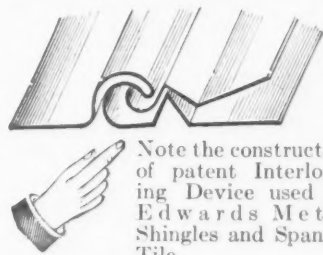
Compo-Board Co.

5777 Lyndale Ave., at 44th
MINNEAPOLIS, MINN.



Edwards METAL SPANISH TILE Roofing

Its scores of vital, practical advantages cost no more than common roofing, yet mean tremendous economy—it needs no repairs and outlasts several ordinary roofs because of its practically indestructible metal construction.



Note the construction of patent Interlocking Device used on Edwards Metal Shingles and Spanish Tile.

It is absolutely wind-weather, storm, fire and lightning proof.

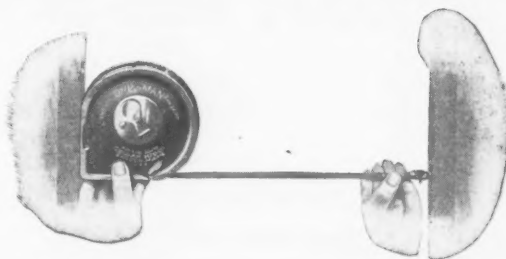
Home-Builders—Simply send us today the dimensions of your building and we will tell you by return mail exact cost of all material. Our new book on beautifying the modern American home by use of Metal Spanish Tile is yours for the asking. A postal will bring it.

The EDWARDS MANUFACTURING CO.
401-417 Eggleston Avenue CINCINNATI, OHIO

*The World's Largest Makers of Metal Ceilings,
Metal Shingles, Metal Roofing, Siding, Rolling
Doors, Metal Lockers, etc.*

3

Every Architect and Builder Needs a "ONE-MAN" STEEL TAPE



By eliminating second man, your CROGAN "One-Man" tape soon pays for itself. It is built upon an entirely new principle, and is of the highest grade materials and workmanship. It embodies the

**Only Radical Improvement in Tape Measures
For 5,000 Years**

It is the only steel tape on the market which will take **accurate inside measurements**,—no bending of the tape to get it into the corner in an attempt to guess what the reading is! (See cut) Nickel-Plated brass case—rust-proof inside and out.

Prices: 25 ft., \$5.50; 50 ft., \$6.50

Buy of your dealer or order from the factory

CROGAN MFG. CO., Bangor, Me.

"If it's a ONE-MAN, it's a Crogan"

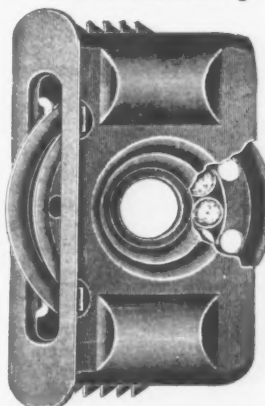
"GRAND RAPIDS" All-Steel Sash Pulleys

are **LIGHTEST** yet strongest. Two-thirds of your freight is saved, yet a **BROKEN PULLEY IS UNKNOWN** in our product—and these superior **ALL-STEEL** goods cost no more than the common pulleys made of cast iron.

The No. 10 Ball Bearing Pulley illustrated here is one of our best known styles.

This Pulley has the automatic saw-tooth fastening feature which saves time and labor. No nails or screws required, yet the Pulley is held in place more securely than when fastened by any other method.

No. 10 Ball Bearing



The bearing contains eleven $\frac{1}{4}$ -inch solid steel balls running in lubricant, insuring a noiseless, easy running wheel under any load. This feature makes an excellent talking point for your window frames.

See this Pulley at your dealer's.

**Mail Coupon
for FREE
Sample**

Grand Rapids Hardware Co.

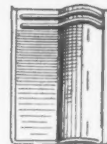
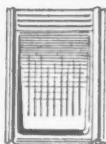
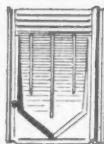
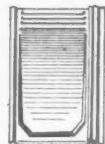
560 11th St.

Grand Rapids, Mich.

GRAND RAPIDS HARDWARE CO., Grand Rapids, Mich.
I am interested in your No. 10 Ball Bearing "Grand Rapids"
All-Steel Sash Pulleys. Please send me sample.
Name _____ Address _____ City _____ State _____

WALTER'S & COOPER'S METAL SHINGLES

*The
Shingles
That
Last*



*The
Shingles
That
Last*

The Most Complete Line of Designs

The Best Quality Workmanship and Finish

Made in Painted Tin or Genuine Re-dipped Galvanized Tin, Sheet Zinc and Copper

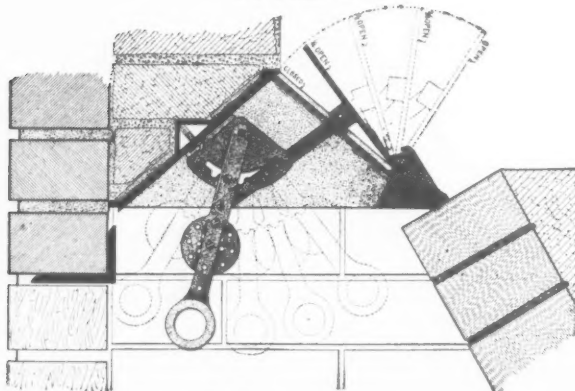
SOLD AT THE RIGHT PRICE

May we send you full-size samples and prices?

NATIONAL SHEET METAL ROOFING CO.

339-345 GRAND STREET
JERSEY CITY, N. J.

COLONIAL Head-Throat and Damper STYLE E



Cross Section View

This improved style combines all the exclusive quality features of our other styles. It can be set in any position in the chimney throat. It takes up expansion and contraction within itself—no cracked facings. It is designed to insure maximum heat, economical fuel consumption and perfect draft control without smoking. Easily regulated without stooping by hooking a poker through the large ring in the lever arm.

Colonial Head-Throat and Dampers are the result of thirty years of experience in building fireplaces.

Secure the Colonial Head from your dealer, or write to us.
Illustrated folder sent on request.

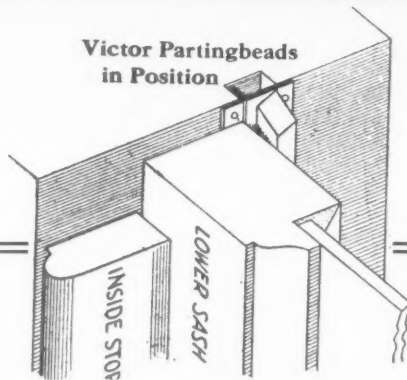
COLONIAL FIREPLACE COMPANY

Manufacturers of Complete Fireplaces, Dampers, Grates,
Andirons, Screens, Fenders, Hoods, Firesets, etc.

4604 Roosevelt Road

Chicago, Illinois

Victor Partingbeads
in Position



SAVE YOURSELF

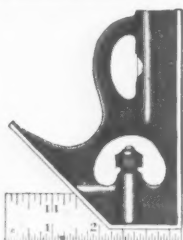
the complaints from the building owner about the **sticking—rattling—dust and air-leaking** of double hung windows. Victor Partingbeads should be installed as a component part in every window to make your job complete and right.

It is not the changes in height or width of the sash, but it is the swelling, warping and shrinking in the thickness of the sash that causes all the trouble.

Victor Partingbeads are the only device that attacks and corrects the trouble from this angle. This idea is entirely new and is the result of many years of practical experience by the inventor, himself an architect and builder.

Write for particulars

THE VICTOR PARTINGBEAD COMPANY
READING, PA.



LUFKIN

Made in 9-inch and 12-inch lengths

**"UNIVERSAL" TRY AND MITRE
SQUARES**
FOR WOODWORKERS

HIGH GRADE YET POPULAR PRICED
ACCURATE—DURABLE—WELL DESIGNED

No. 65L—WITH LEVEL : No. 65—WITHOUT LEVEL

Combine in One Tool for Woodworkers the Try and Mitre Squares with Blade Adjustable in Length, the Level and Plumb, the Marking Gauge, Height and Depth Gauge and Separate Rule.

BUT ONE ITEM IN OUR LINE OF TAPES, RULES AND MECHANICS' TOOLS.

If Unobtainable at Dealers Write Us Direct

Send for
Catalogue No. 21

THE LUFKIN RULE CO. SAGINAW, MICH. New York
Windsor, Ont.

You Can Make Money

When it
Storms



or When the
Sun Shines



Keep out cold
Stop draft
Save coal
Shut out rain
Stop rattle

Ceco

METAL WEATHERSTRIPS

"Outstrip All the Others"

Prevent leakage
of dust, sand,
soot
Keep out wind
and outside
noises

100% efficient—completely adjustable—low in first cost—no expensive side grooving to install. All buildings need them, old, new, large or small.

We want interested Dealer-Agents

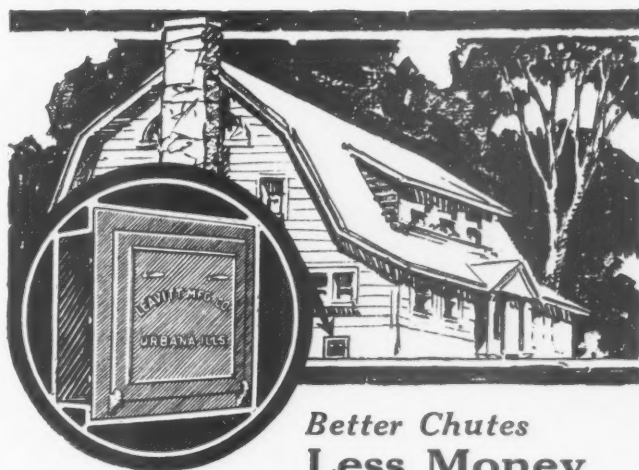
Two profits for agents—one on sale, other on installation.

Your Opportunity. A Business of Your Own. Write Today.

CONCRETE ENGINEERING COMPANY

Dept. 3

140 S. Dearborn St., CHICAGO



Better Chutes Less Money

Simple, rugged construction and economical factory methods enable us to put out a more serviceable coal chute for much less money. Try it on your next job.

Specify

LEAVITT COAL CHUTES

No glass to break, door lifts off; no hinges to bother; locks burglar-proof from the inside; neat, permanent, substantial. Size 20x22 inches—somewhat larger than ordinary. Styles to suit every need. Adds a neat, finished appearance to the basement.

Send for circular and prices.

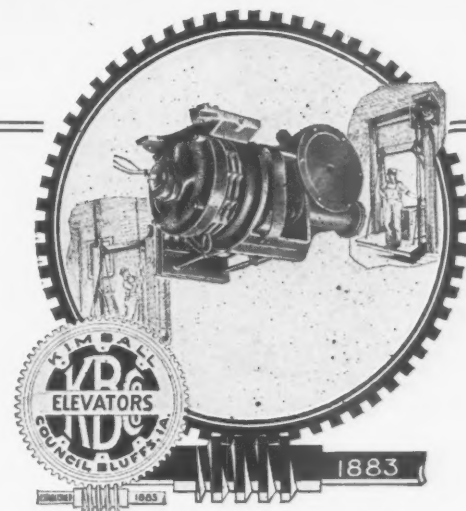
LEAVITT MFG. CO.,

366 Griggs St.

Urbana, Ill.

**Remember,
Leavitt Also
Makes:**

Cistern
Covers
Ashpit Doors
Drainage
Grates
Ventilating
Grates
Dump Doors
for ashpits
under fire-
places.



Kimball Electric Attachments

Saved time is saved money

**Light and
heavy hand
power and
electric
elevators**

You save much valuable time when you install a Kimball Electric Attachment and convert your hand elevator into a direct connected electric. Absolutely the most practical and highest improved device of its kind, yet very reasonable in cost. Saves work and cost, too. Easily and quickly installed. 500 to 4,000 pounds capacity.

Send for special Electric Attachment folder which explains what it will accomplish in your business.

Write today.

KIMBALL BROS. CO.
COUNCIL BLUFFS, IOWA

1050 - 9th St.

Kansas City
Oklahoma City

Duluth
Minneapolis

St. Louis
Denver

Detroit
Salt Lake City

MYERS FAULTLESS

ADJUSTABLE TANDEM DOOR HANGER AND SELF CLEANING —TRACK—



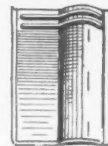
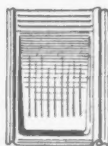
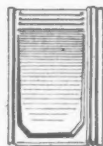
Double protection—faultless sliding door service for barns, garages, and other buildings—Note illustration appearing to the left. Faultless Self-Cleaning Track protects both trolley and tops of doors, the steel hood extending downward and outward completely housing the hanger and preventing ice, snow and sleet collecting on door tops. Faultless Hangers have double adjustable features, large turned steel rollers, steel roller bearings, heavy frame and hinged connection insuring light operating, snug fitting, year-through sliding doors.

Different from others, those seeing it immediately sense its possibilities for faultless door service. Catalog showing Twelve styles Myers Tubular and Stayon Door Hangers and Tracks, with prices, on request.

THE F.E. MYERS & BRO. CO.
ASHLAND, OHIO.
MANUFACTURERS OF
MYERS PUMPS-HAY TOOLS-DOOR HANGERS

WALTER'S & COOPER'S METAL SHINGLES

*The
Shingles
That
Last*



*The
Shingles
That
Last*

The Most Complete Line of Designs

The Best Quality Workmanship and Finish

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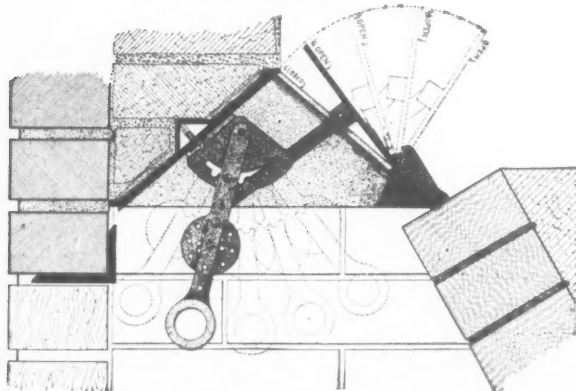
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COLONIAL Head-Throat and Damper STYLE E



Cross Section View

This improved style combines all the exclusive quality features of our other styles. It can be set in any position in the chimney throat. It takes up expansion and contraction within itself—no cracked facings. It is designed to insure maximum heat, economical fuel consumption and perfect draft control without smoking. Easily regulated without stooping by hooking a poker through the large ring in the lever arm. Colonial Head-Throat and Dampers are the result of thirty years of experience in building fireplaces.

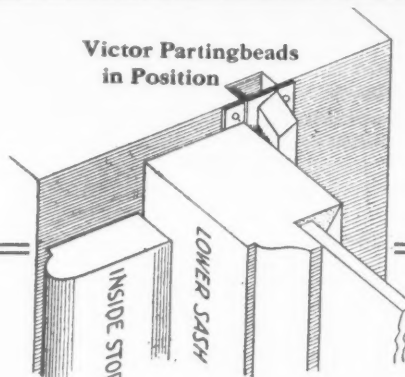
Secure the Colonial Head from your dealer, or write to us.
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COLONIAL FIREPLACE COMPANY

Manufacturers of Complete Fireplaces, Dampers, Grates,
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SAVE YOURSELF

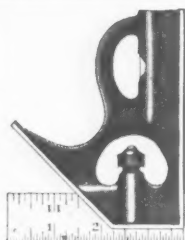
the complaints from the building owner about the **sticking—rattling—dust and air-leaking** of double hung windows. Victor Partingbeads should be installed as a component part in every window to make your job complete and right.

It is not the changes in height or width of the sash, but it is the swelling, warping and shrinking in the thickness of the sash that causes all the trouble.

Victor Partingbeads are the only device that attacks and corrects the trouble from this angle. This idea is entirely new and is the result of many years of practical experience by the inventor, himself an architect and builder.

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LUFKIN

Made in 9-inch and 12-inch lengths

**"UNIVERSAL" TRY AND MITRE
SQUARES**
FOR WOODWORKERS

HIGH GRADE YET POPULAR PRICED

ACCURATE—DURABLE—WELL DESIGNED

No. 65L—WITH LEVEL : No. 65—WITHOUT LEVEL

Combine in One Tool for Woodworkers the Try and Mitre Squares with Blade Adjustable in Length, the Level and Plumb, the Marking Gauge, Height and Depth Gauge and Separate Rule.
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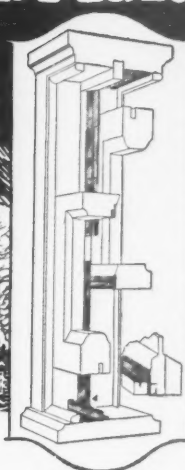
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You Can Make Money

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Keep out cold
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METAL WEATHERSTRIPS
"Outstrip All the Others"

Prevent leakage
of dust, sand,
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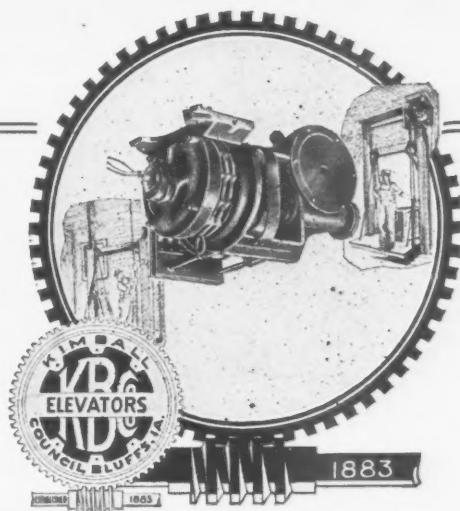
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**Light and
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**ADJUSTABLE TANDEM
DOOR HANGER
AND SELF CLEANING
—TRACK—**



Double protection—faultless sliding door service for barns, garages, and other buildings—Note illustration appearing to the left. Faultless Self-Cleaning Track protects both trolley and tops of doors, the steel hood extending downward and outward completely housing the hanger and preventing ice, snow and sleet collecting on door tops. Faultless Hangers have double adjustable features, large turned steel rollers, steel roller bearings, heavy frame and hinged connection insuring light operating, snug fitting, year-through sliding doors.

Different from others, those seeing it immediately sense its possibilities for faultless door service. Catalog showing Twelve styles Myers Tubular and Stayon Door Hangers and Tracks, with prices, on request.



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Are Justifiable from
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COULSON STORE FRONTS

Send for your free
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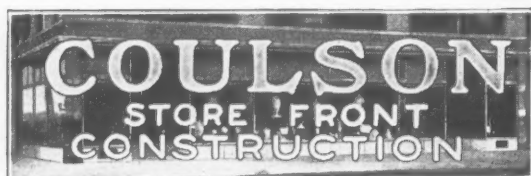
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Address Dept. A, please



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Intricate cutting and grooving is simplified and expedited by the use of this remarkable device.

It consists of two outside cutters which can be used in conjunction with as many inside cutters as are necessary to perform the required cut.

We were the original patentees of this type of saw. Into it goes all the workmanship and knowledge of saw making gained from our experience of fifty years.

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Illustrated catalogue sent promptly on request

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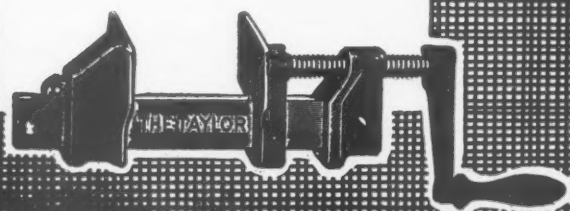
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**ROOF AND DECK
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FOR ROOFS AND DECKS OF SLEEPING
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IT IS RELIABLY WATERPROOF AND
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NO WHITE LEAD BEDDING REQUIRED
YET LAYS FLAT AND STAYS FLAT

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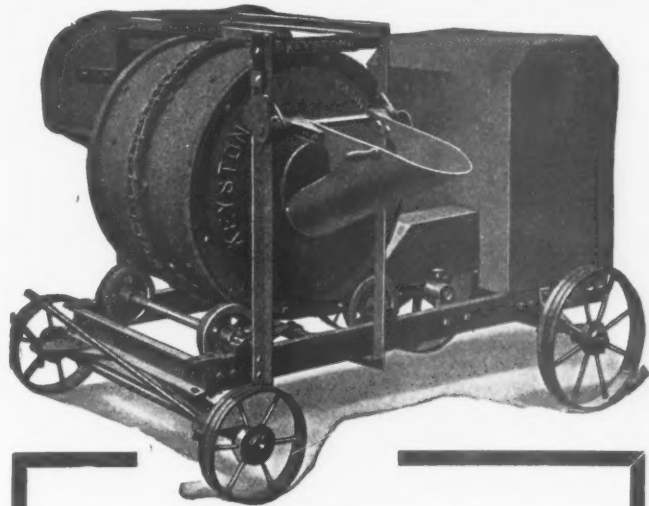
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It will make money for you.

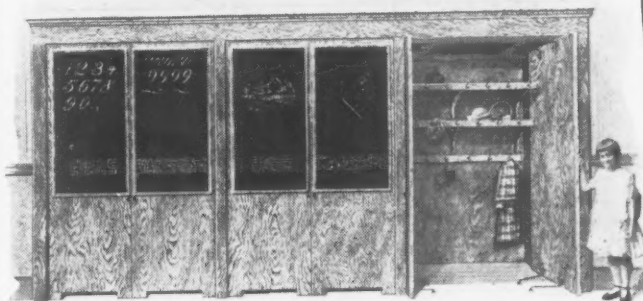
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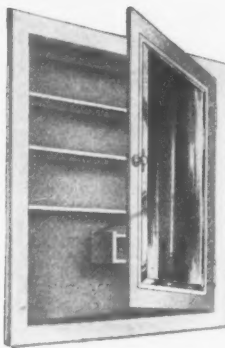
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STRAIGHT-AWAY GARAGE DOOR OUTFIT

Easy
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Easy
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The Item that Costs Least and Means Most

In the Building of a Convenient, Weather-proof, Swear-proof Garage

Less than \$15.00 for door hardware is an insignificant item of expense in building a good garage, but the thing it buys is **tremendously important**—the greatest source of satisfaction or dissatisfaction in the whole structure.

The STRAIGHT-WAY Garage Door Set is weather-tight, convenient, sag-proof. It is equally good for inside or outside doors, right hand or left hand; can be padlocked inside or out. Equipment furnished is complete—track, hangers, brackets, latches, door pulls, hinges and screws.

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How Many Jobs Like This in Your Town Can You Do?

If you use a PAASCHÉ Painting Machine, not one of them need be lost



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WHAT WOULD
YOU MAKE



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Don't Be a Slave to Hand Brush!

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The AIRWAY forces the paint in cracks, crevices where the hand brush never touches. Easier work, too!

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These substantial, attractive and economical partitions are an unusual improvement in toilet room equipment

They are sanitary.

More enduring than wood.

Better and Cheaper than marble or slate.

Cost less to ship.

Can be set in a fraction of the time it takes to set marble or slate.

Easily moved to new location.

Contractors

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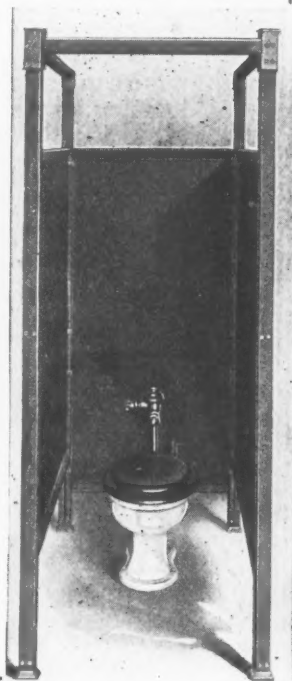
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V & B Supersteel Hammers are equipped with Vaughan's Expansion Wedge—positive insurance of a tight handle and head. Tool heads are drop forged from a solid bar of Vaughan's Supersteel, Ebony Finished and trade-marked V & B in etched gold. A fine tool that will appeal to the man who takes pride in his work.

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This house built by Homer Bliss, Rockford, Ill., has "CREO-DIPT" Stained Shingle 16-inch Brown Side Walls and 16-inch Red Roof with special curved treatment around eaves.



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Leading Lumber Dealers Everywhere Carry Standard Colors in Stock.

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**"It's More Attractive
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**AND IT'S MORE
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Tile floors and walls for baths, halls and porches, add a touch of distinction to the home. They have a substantial, solid "look." And as for beauty, nothing can compare with them.

Once you put in tile—you are forever through with the painting nuisance that you have with wooden floors. And you no longer need to bother with prepared floorings, with their moldy sub-surfaces.

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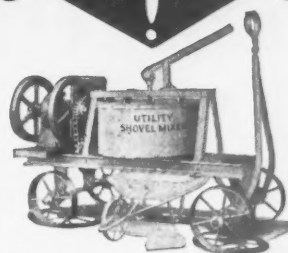
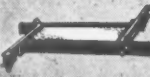
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The New Fox FLOOR SCRAPER No. 3

Width of frame
9 inches
Length of frame
14 inches
Blade 9 inches
Weight 120 lbs.

THIS Machine has an adjustable weight mounted on top, which can be arranged to bring additional pressure on the knife, or be quickly removed from the machine. The Special advantage of the Fox No. 3, in addition to 80 per cent of the weight resting upon the knife, is the adjustable feature, which permits the operator to place the weight where HE

MOST DESIRES THE ADDITIONAL PRESSURE. Will surface any kind of hardwood flooring, including yellow pine, etc., and bring it down to a perfect finish. The handle is adjustable to suit the man operating. This machine is a recent addition to our line and embodies all the best points of advantage in a Floor Scraper. Carpenters who prefer a heavy machine will find the No. 3 exactly suited to their needs.

With each Fox No. 3 we furnish the following accessories:

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| 1 clamp block for sharpening knife | 1 burnisher |
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| 1 special knife, substitute for sander | |

Complete set of instructions for operating.
Write for prices on Scrapers or Scraper Blades
for any make of Scraper

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GARNET

Cabinet and Finishing Sandpaper in sheets and in rolls for finishing floors, hardwood trim, sash, doors and cabinet work.

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Miners, Crushers and Refiners
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THE IMPROVED SCHLUETER

Rapid—Automatic—Ball
Bearing—Electric

Floor Surfacing Machines

Attention!



Get in LINE with all the Regular Contractors, Carpenters and Builders. What you need is an improved Schlueter Floor Surfer to scrape all your old and new Floors

Why surface by hand and suffer—Loss of Time—Money, and also Contracts on account of unsatisfactory work, when you can purchase an IMPROVED SCHLUETER SURFACER—the machine with all troubles left out.

"The SCHLUETER Surfers are worth their weight in GOLD" as one of our Customers express them, and he is right.

A few Jobs and the machine has paid for itself. In a short time the people will know who and what you are; you get the work because you

have the TOOL. You advance to a higher grade and are a man of high class work, for that is just what the people of today want.

We want to send you a SCHLUETER on Trial and let you see for yourself the quantity and quality of work it accomplishes.

The Improved SCHLUETER Floor Surfer

will surface right up to the wall or baseboard without the use of Side Roller. Just the Machine you would want for surfacing all floors whether old or new. Perfect results guaranteed. More than 20,000 of our Machines now in use. Guaranteed against defect in material and workmanship for five years.

Manufactured by M. L. SCHLUETER

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SEND FOR OUR PRICES, ALSO TRIAL PROPOSITION

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The machine is simple, easily handled, made correctly, built to last—the result of years of experience in building this specialty.

As QUALITY of work is the first essential in finishing floors, particularly new work in residences, flats, apartments, etc., all roller vibration must be done away with. It is remarkable how smoothly and steadily this ball bearing machine operates.

Only surfacing machines having roller sanding even with baseboard from either side of machine, doing away with uneven work of edge roller attachment. Removes old varnish, paint, oil-soak, black, etc., rapidly, or cuts downwarped edges quickly. Four sizes—for the largest areas or the smallest rooms.

The Little Automatic Electric Surfacing Machine (on desk) is a wonder for removing varnish from desk tops, counters, etc., or for new work, show windows, sills, doors, in corners, closets, or other confined spaces.

Write for folders. Accept our free trial offer.

Manufactured by

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Pat. 1916



New Tape Hook

Makes
Pullman Sash Balance

The 100% Window Device
With No Increase in Price

The new Tape Hook makes it possible to fasten or unfasten the tape from the sash while sash is in place. No fussing with the stop; no mars or scratches; no refinishing; no lost time.

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Pullmans are made of pressed steel, are entirely incased and constructed in 3 UNITS, K, L and M, adaptable to any kind of sash. Operate easily and quietly; last indefinitely, in fact are guaranteed for 10 years.

Free illustrated catalog, full of Modern Window Operating Information, sent on request.

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"PULLMANIZE YOUR WINDOWS"

Heat Your Home from a "Thrift" Kitchen Range

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HOT WATER } SUPPLY HEAT

"ONE FIRE DOES ALL"

The "Thrift" maintains a temperature of 70 degrees in zero weather.

For any type of house requiring not more than 350 square feet of radiation it is the most economical and efficient heating unit on the market.

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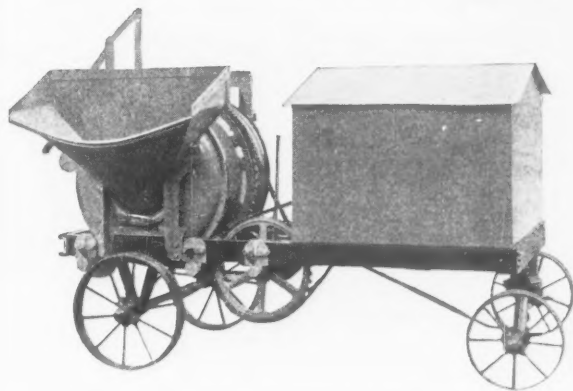
Ask our dealer, or write us for full information. You will recommend "Thrift" on future jobs.

ZIMMERMAN STOVE-HEATER CORP.

Sales Dept., 25 W. 43rd St. NEW YORK, N. Y.
Office and Warehouse, Jamaica, N. Y.

\$350.00

Complete with 3 H. P. Engine

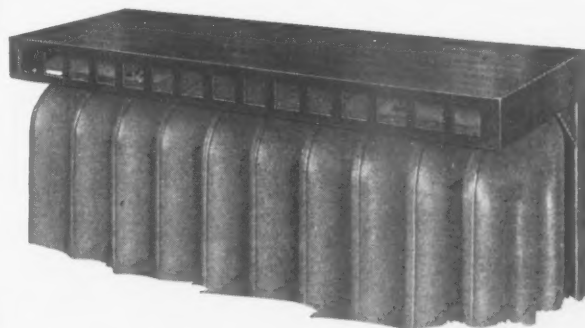


Atlas No. 56 Mixer with Batch Hopper. Capacity 5 cubic feet dry material, Wide face wheels, Steel axles, Frame, 4-inch Channel hot riveted, Dust and dirt proof bearings, Semi-steel Drum heads, Engine equipped with magneto, Weight 1960 lbs.

We build 3½ ft., ½ bag, 1 bag and 2 bag Mixers.

Dealers Write for Agency Proposition

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Radiator Protection

All-Steel Radiator Covers are modern devices built as an essential part of steam, hot water or vapor radiators. There's magic in them. Dull, grimy radiators are transformed into things of beauty. Walls, ceilings and drapes are protected from dirt, without impairing the efficiency of the radiators.



Write for illustrated folder giving complete specifications.

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FRANK S. BETZ CO., Hammond, Indiana
Please forward me without obligation, illustrated folders on De Luxe All-Steel Radiator Covers.

Name.....
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City.....State.....
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Old European Slate Roofs

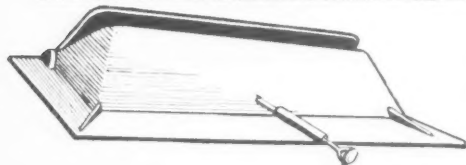
Our Color Combinations include varying shades of purple, gray, green and black together with the weathered buffs, the colors vying with the autumnal tints of the hillside. Marked surface texture, rough dressed edges, graduated thicknesses and hard quality make these roofs both handsome and everlasting. The cost is no more than the manufactured imitations. Write us for prices and samples.

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Roofing Slate — Blackboards — Structural Slate



Donley
Damper



Donley Ash Dumps



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These, for the Fireplace

DONLEY fireplace parts, co-ordinated with Donley plans for the fireplace masonry, solve the whole fireplace question for the builder who would make sure of warm, sootless, economical fireplace operation.

Donley Dampers simplify construction and provide perfect draft control. Donley Fire Baskets combine beauty with staunchness and they fit a hearth of approved design. Donley Ash Dumps [2 kinds] shut off the dust and odor of the ash-pit.

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The Donley Brothers Co.

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Hold doors firmly open or closed.

Cannot injure floors.

Operated by foot.

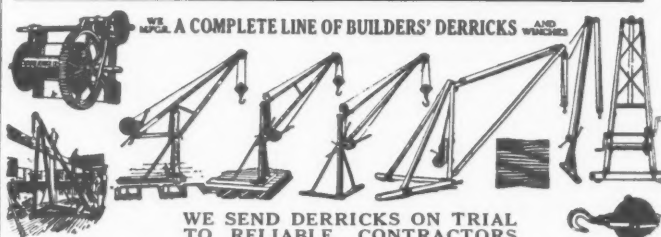
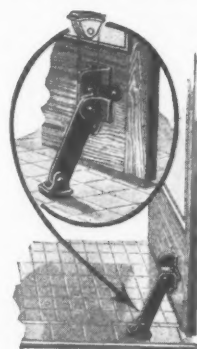
Made to fit any door.

Our garage door holders should be installed on every garage.

Send for illustrated folder.

Grand Specialties Company

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CHICAGO, ILL.



Our Motto is SATISFACTION or DERRICK RETURNED

Write for circular No. 2 with illustrations, descriptions and best prices on our complete line. Sasgen Builders' Derricks are built of the best Crucible Steel and Malleable Iron Fittings, which makes them light, strong, safe and durable. The derricks will please you, and probably more than pay for themselves on the first job. Get one on trial.

SASGEN DERRICK CO.,

3101-3125 W. GRAND AVE.
CHICAGO, ILL.

NEW YORK OFFICE—GRAND CENTRAL TERMINAL

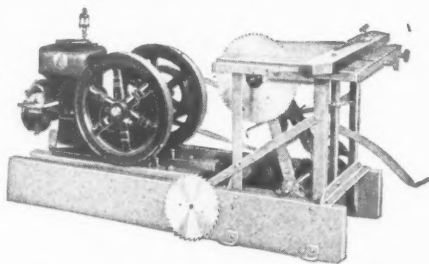
Parks "Contractors' Special"

\$75

without engine

\$165

with 3 HP engine
f. o. b.
Cincinnati



Faster than twenty hand saws

DO all your cross cutting and ripping on this portable saw rig. Use it in the shop or on the job. Save your arm and save your time. Square up joists, sills, boards; cut rafters; rip long material. Saves labor and speeds up the job. Most used machine in any shop.

Rip and cross-cut guides quickly adjusted. Adjustable stop for cutting to length. Has fast and accurate cut; and quick, easy foot-lever action.

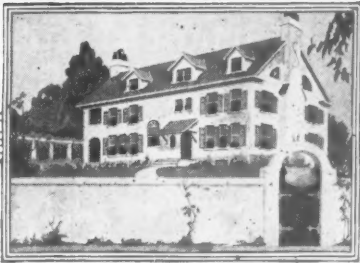
Table top is channel-steel, machined and true. Frame is electric-welded angle-iron, rigid and strong.

Write for Parks complete catalog of individual and combination woodworking machines.

The Parks Ball Bearing Machine Company
Fergus Street & C. H. & D. R. R. Cincinnati, O.
Canadian Factory: 200 Notre Dame East, Montreal, Can.

4-23

PARKS
WOODWORKING MACHINES



Sell Your Houses Quickly

Make your houses attractive and you can sell them quickly and at a good profit. Every buyer wants an attractive house whether he is buying a mansion or a bungalow.

Why not let Magnestone Stucco make your houses attractive? It furnishes a permanent masonry job which is not only beautiful, but is more moderate in price as well. Only the purest minerals (without adulterants) are used to make this attractive, permanent and economical magnesite stucco.

Literature and samples of Magnestone are yours for the asking. Write for them now.

American Magnesite Corporation
General Offices: Springfield, Ill.

Factories:
Springfield, Ill., Ottawa, Ill., Kansas City, Mo.

MAGNESTONE
STUCCO

PUBLIC SALES

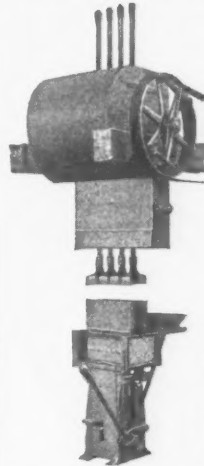
We have purchased 122,000 pair U. S. Army Munson last shoes, sizes 5½ to 12, which was the entire surplus stock of one of the largest U. S. Government shoe contractors.

This shoe is guaranteed one hundred per cent solid leather, color dark tan, bellows tongue, dirt and waterproof. The actual value of this shoe is \$6.00. Owing to this tremendous buy we can offer same to the public at..... **\$2.95**

Send correct size. Pay postman on delivery or send money order. If shoes are not as represented we will cheerfully refund your money promptly upon request.

National Bay State Shoe Company
296 Broadway NEW YORK, N. Y.

The Anchor Stripper



The Fastest and Most Economical Machine for Making Plain Faced Concrete Blocks

With the Anchor Stripper machine you can make better blocks, make them faster and more economically than with any other type of block machine. All Anchor equipment guaranteed.

The Anchor System



Write for descriptive catalogue for details of the Anchor line

Start with a Single Unit and Add as You Grow

Anchor Concrete Machinery Co.

ANCHOR

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Now Making Hollow Steel Doors and Trim

Full equipment—machines, dies, tools, raw and semi-finished stock, drawings, patents, etc.

Particularly attractive terms.

Full investigation invited.

We desire to devote our whole attention to our other lines and offer the Hollow Steel Department of our business only for sale.

Solar - Sturges Mfg. Co.
838 West Congress Street, Chicago

AN AGENCY IS PROFITABLE, INVESTIGATE NOW.

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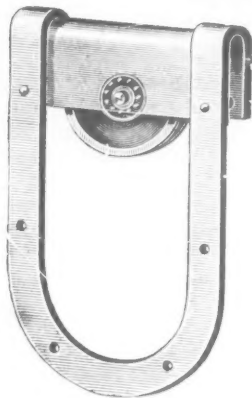
PRACTICAL METAL
THE DIAMOND
WEATHER WAY STRIPPING

A PERMANENT BUSINESS THE YEAR ROUND. DEMAND CREATED

EXCLUSIVE TERRITORY TO BUSINESS PRODUCERS

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THE DIAMOND
METAL WEATHER STRIP CO.
COLUMBUS, OHIO.

Lane's Special Barn Door Hangers



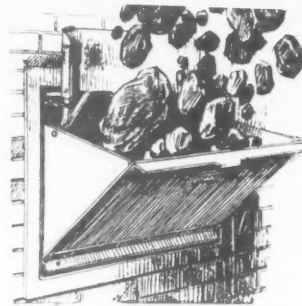
SPECIAL

These Hangers have U-Shape frame, the form of the original Lane. The wheels are completely covered and will run on any length of track.

Sold by the hardware trade everywhere

Manufactured by

LANE BROTHERS COMPANY
Carroll Street POUGHKEEPSIE, N. Y.



Let It Come!

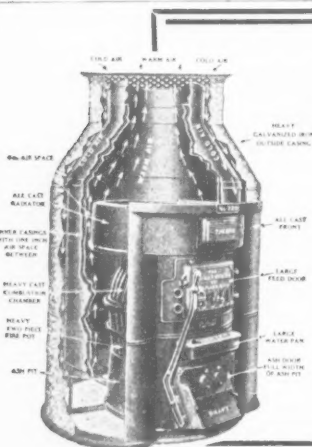
The "Kewanee" is built for rough usage. Its "Copper Steel" construction resists the onslaught of tons upon tons of coal, year after year, without breaking.

ATTRACTIVE — CONVENIENT — ECONOMICAL

Kewanee Coal Chutes preserve the appearance of the home; are convenient to operate—are unbreakable. Three good reasons why you should send for complete description and prices. Although we guarantee "Kewanee" Coal Chutes, and thousands are in use, no purchaser has ever found it necessary to avail himself of this guarantee.

Your next job deserves a "Kewanee."

Kewanee Manufacturing Company
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Canadian Manufacturer—Cast Stone Block & Machine Co., Ltd., Windsor, Ontario



reliable For Warmth **RYBOLT FURNACES**

The mechanical and scientific correctness in design of RYBOLT FURNACES assures the user of maximum furnace efficiency. Whether your need is of a pipe or pipeless furnace, you will find a correct model in the RYBOLT line.

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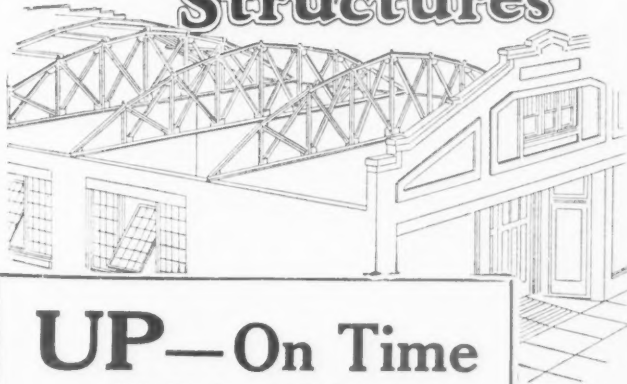
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Send us rough sketch of the job and we will gladly furnish plans and estimates free.

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Established 1868
CLINTON, IOWA

**We
Work
From
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Rough
Sketch**

Something New in Weatherstripping

YOU **knew** that weatherstripping could be improved and also **knew** that some day someone would improve it.

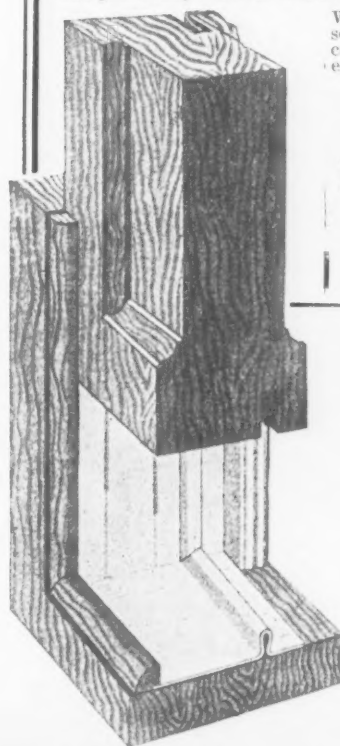
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We want more live representatives to show this coming standard of weatherstrips.

Shogren & Rasmussen Co.

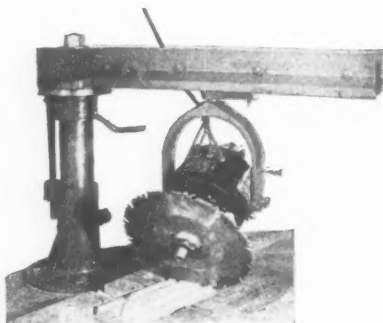
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The new rib-shape that keeps the contact edge perfect regardless of how much the sash may warp or shrink, the corrected shape for the Brass Thresholds, Brass Casement Troughs and all make the SHOGREN a better weatherstrip.

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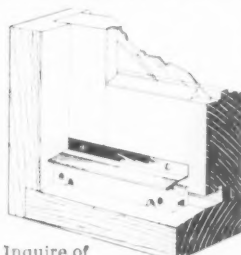
Will cut off, rip, dado, tenon, tongue and groove. Do routing, shaping, sanding, carving, grinding, boring ON ANY BEVEL OR ANGLE.

**Quick Change
No Belts**

You're the loser if you don't own one.

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The Eveleth ECONOMY Strip for the bottom of inswinging casement windows



In recent issues of American Builder may be seen cuts of our highest type Casement Strip—the Eveleth OVERLAPPING.

We now wish to call your attention to our cheaper Strip—the ECONOMY. This Strip (like the OVERLAPPING) is applied mainly to the outside of the sash, where a casement strip must be to be most efficient. We consider this Strip a marvel of efficiency and cheapness.

Average cost, 70 cents per sash.

When ordering, specify Eveleth ECONOMY

Inquire of

EVELETH MANUFACTURING CO.

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(Two miles west of Chicago city limits)

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With a Rowe Rapid Sack Baler

Just lay on empty sacks, press down locking handle, twist ends of bale wires; release lever and remove bale. Makes neat, solid, triple-bound 50-sack bale. Impossible to pull out sacks. Saves time, labor and loss.

Lowest in Price Wires for baling 1,000 sacks included free. Simplest of all balers—easiest and quickest to operate. Nothing to break or get out of order. Light, compact, easy to move from place to place. Baled sacks take up but little space. Ship safely. Stop deductions for losses. Rebate on 3 bales pays for baler. Order direct. Extra ties \$1.65 for 500 (enough for 8300 sacks.)

Push Down Self Locking Lever and Twist the Bale Wires

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Makers of the Famous Can't-Sag Gates and Steel Posts

MARQUISE — BUILT COMPLETE —

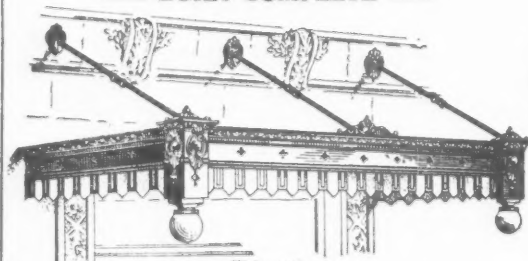


FIG. 408

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THE MOESCHL-EDWARDS
CORRUGATING CO.
CINCINNATI, OHIO.**

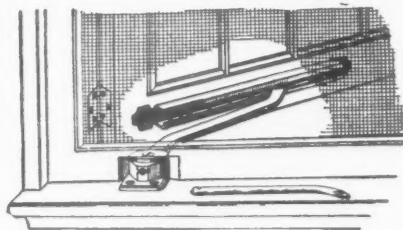
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Cottage Type

An efficient, convenient operator, giving inside of screen control at a surprisingly low cost.

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THE MAIL BOX

The modern built-in mail box

Our mail box built in the walls of your home will insure—Beauty, Convenience, Protection—in receiving your mail. A necessary equipment of every modern home.

Priced from
\$6.00 to \$15.00

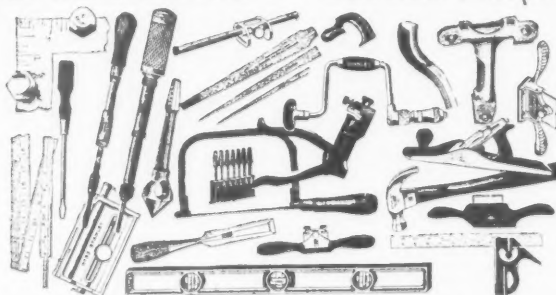
Descriptive circular mailed on request.

A real mail box built in the walls of your home.

Live dealers wanted

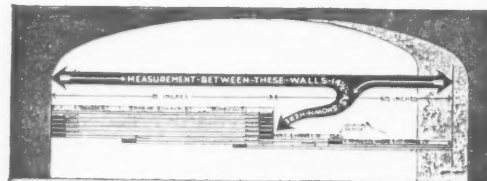
PENN-GREG MFG. CO.
517 Capital Bank Bldg., St. Paul, Minn.

J. M. WATERSTON 423 Woodward Ave. DETROIT, MICH.



I SPECIALIZE IN TOOLS

Send for Free Catalogue No. 24



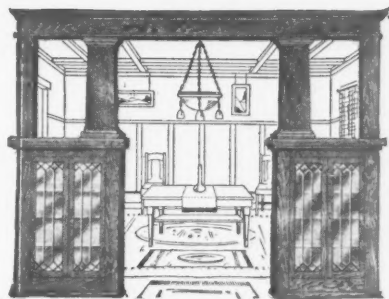
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to make difficult inside or outside measurement. No chance for mistakes. Comes in all lengths from 2 to 8 feet. Fine boxwood. If your dealer cannot supply you send for one at 20c per lineal foot.

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Adds the touch of Refinement. Beauty that increases renting and selling values.

SEE OUR OFFERS

Bookcase Colonnades—Sideboards, Medicine Cabinets, etc., are of Distinctive Design and give living comfort to any home.

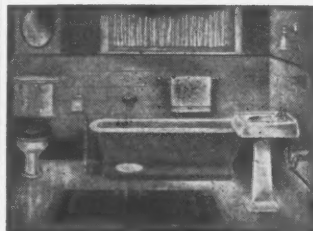
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When in the market for Plumbing, Heating and Pneumatic Waterworks Supplies and you wish to

Save 20 to 40%

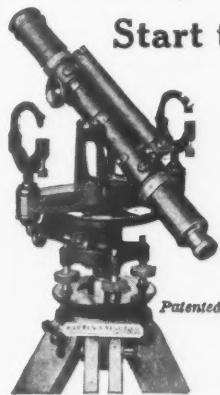
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Only house selling guaranteed plumbing and heating supplies to all. Send for Catalog

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Start the New Year Right!

Put our New Model No. 40

"Sterling" Convertible Level

on the job and watch it save its cost. Out-of-date methods and equipment don't pay—especially leveling equipment. The "Sterling" Level combines two instruments in one—changed in ten seconds for use as a Transit. Convertible uprights fold down clear of telescope when not in use—an exclusive "Sterling" feature.

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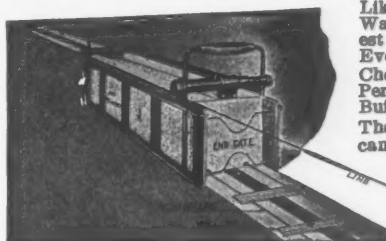
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Warren-Knight Co.

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We Repair and Adjust Transits and Levels of ALL Makes.

For 50% Build The Hollow Wall Way 50% For



Like a thermos bottle—Warmest in winter. Coolest in summer. Fire-proof. Everlasting.

Cheapest, best and most Perfect way known to the Building World.

The reason the most wall can be built for the least money with our forms is—because they are **STRONGEST—SIMPLEST** and most **PERFECT**

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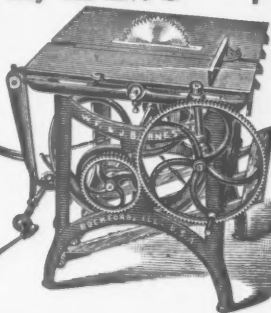
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The New Fourth Edition of **THE BUILDING ESTIMATOR'S REFERENCE BOOK** insures contractors' profits by eliminating mistakes in estimating. Contains 2100 pages brim-full of estimating and cost data on every building subject, including Overhead Expense, Excavating, Pile driving, Foundations, Masonry, Concrete, Cement Blocks, Fireproofing, Carpentry, Plastering, Sheet Metal, Steel Sash, Metal Lumber, Roofing, Painting, etc. The most complete book of its kind ever published.— Sent on 5 days' approval to contractors, engineers and architects writing on their business letter head, giving reference, Money refunded if unsatisfactory. Price Only \$10.— WRITE TO-DAY!

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Electric Rotary Machine

Sandpapering Disc
14 inches in
diameter



For sandpapering and refinishing wood floors old or new

Stone Rub Holder Attachment

For surfacing and polishing marble, mosaic, terrazzo, etc.

Does Saving of Time and Labor Interest You?

Thousands of enthusiastic users have proven by years of experience that the **ELECTRIC ROTARY MACHINE** is the **MOST ECONOMICAL** on the market, because it will do different kinds of work requiring several machines of other makes. Is successfully used in small quarters as well as large areas. Simple to operate, easily moved about, durable and practically fool-proof. Will produce a finish superior to any other machine. Write for information.

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BUCKEYE Electric Water Systems

For Suburban and City Homes

Backed by 40 years of pump success. The Buckeye Electric House Pump is operated automatically and is self-oiled. Equipped with either alternating or direct current.

Capacity 180 gallons per hour, which is sufficient to supply any ordinary home with its needs for either soft or hard water.

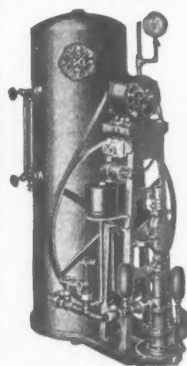
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CALIFORNIA STYLE All Climate HOMES

—show Pictures, Floor Plans and Estimated Costs of Building over 200 Selected Designs.

"West Coast Bungalows" "Representative Cal. Homes"
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Awarded Medal of Honor on Mechanics' Tools at Panama-Pacific Exposition

Manufacturers of all kinds of
BITS, CHISELS, DRAW KNIVES, GOUGES, GIMLETS, AUGERS, NAIL SETS, SCREW DRIVERS, COUNTER-SINKS, BORING MACHINES and EXPANSIVE BITS



Buy Only Carpenters' Tools Bearing the Trade Mark which Stands for Quality

THE COAL SHORTAGE

Will not hold any terror for homes equipped with

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for they require from 25% to 40% less coal than those without

WE WANT LIVE AGENTS

Establish yourself in a growing business that brings real profits. There is still some good territory open. Write to us about it.



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Hand Dipping Puts Zinc ON THE EDGES Too

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Tower Simplicity

The Caldwell Tubular Tower is the simplest, most easily erected and most graceful tower on the market. Its construction—of steel tubing, rugged socket castings and steel sway-brace rods with drop-forged turnbuckles—results in a tower of practically no wind resistance that will serve you long and faithfully. *Send for Catalog.*

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BOVEE'S OLD RELIABLE FURNACES

Pipeless or with Regular Piping

28 Years on the Market

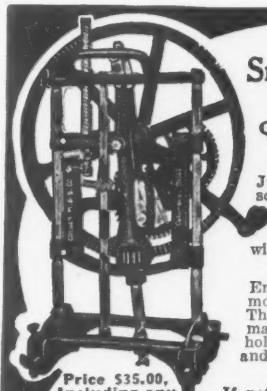
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Absolutely Reliable, Durable and Economical
Saves 40% of Fuel

With our illustrated Price List a contractor can tell in two minutes the exact cost of the entire Heating Plant for any ordinary house or bungalow, and order simply by number.

Write for Full Information and Prices That a Man Can Afford to Pay

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Bovee's Horizontal
Wood and Coal
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Make a Smooth, Clean-Cut Mortise Quicker, Easier and Better with the Champion Mortiser

Just the thing for working on doors, sash, screens, cabinet work, etc. Makes a perfect mortise with straight sides and uniform depth in hard, soft, knotty, cross-grained or end wood. Cuts through dowel pins or panel ends with perfect ease.

Ten Times Faster Than Ordinary Methods

Enables any worker to make 100 to 120 perfect mortises per day without brace, bit or chisel. Three speeds for different kinds of wood. Automatically regulated. Quickly adjusted from round hole to 6 1/4" slot. Uses 1/4", 3/8", 1/2", 5/8" and 3/4" bits. Special sizes up to 1 1/4".

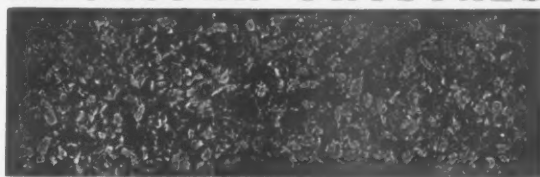
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If not satisfactory after 10 days' trial, return and get your money back. Send today.

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Price \$35.00,
including any
two bits.
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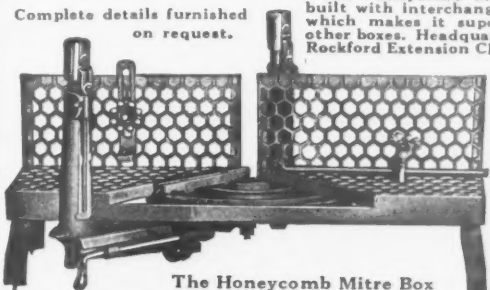
Add to your product a selling value five times greater than the facing cost. Made in six scientifically milled sizes, extremely hard, sharp, free from dust and impurities. Insures strength and beauty. A most distinctive Stucco Dash Booklet, "Micaspars and How to Use It," with free samples, mailed on request.

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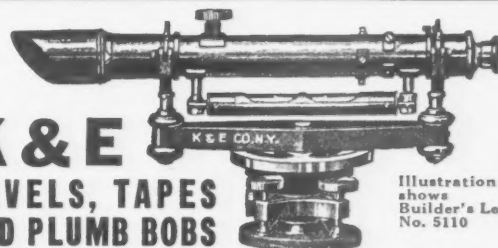
Produces a perfect, smooth cut. Users pronounce it the best mitre cutting saw on the market. Write today for catalog!

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For Your
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Illustration
shows
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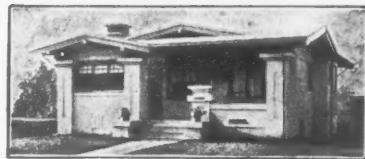
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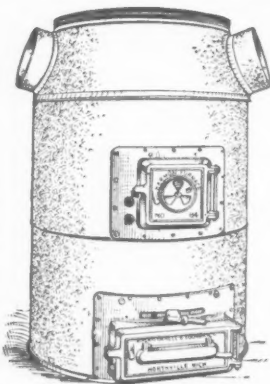
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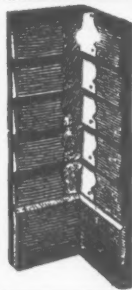
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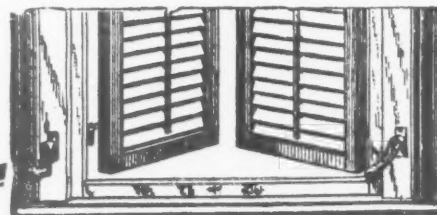
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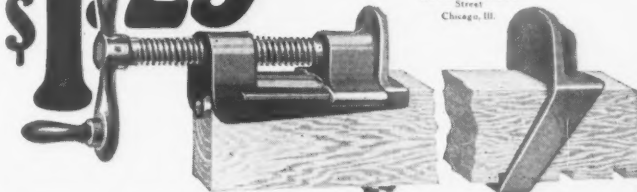
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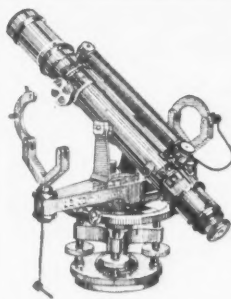
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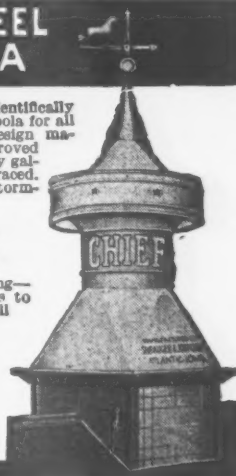
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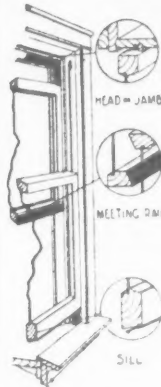
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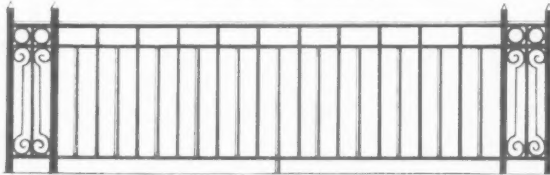
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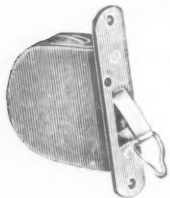
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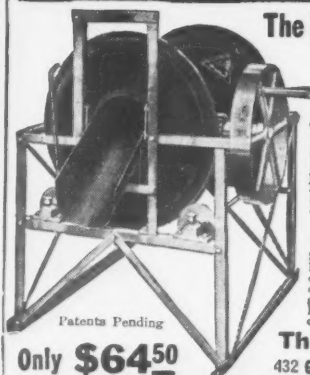
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| OF HIP OR | | | | | |
| RAFTER VALLEY | | | | | |
| DIFFERENCE IN LENGTH OF JACKS | | | | | |
| FIGURES | | | | | |
| GIVING | | | | | |
| SIDE CUT | | | | | |
| OF JACKS | | | | | |
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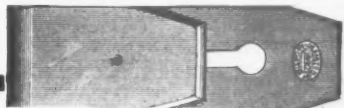
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The steel capped doubled plane iron illustrated is one of the celebrated Barton Tools.

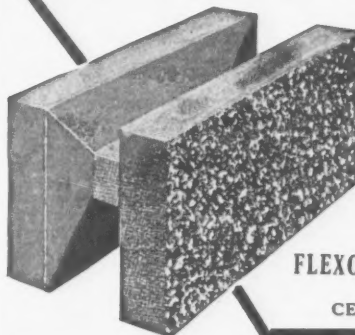
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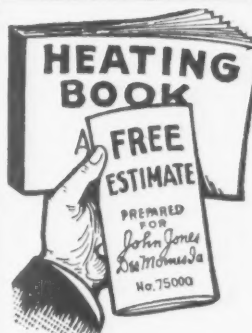
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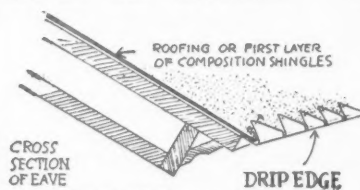
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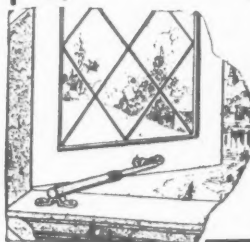
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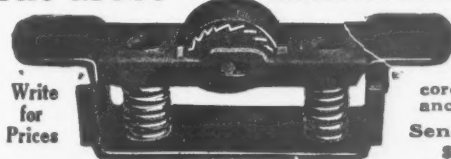
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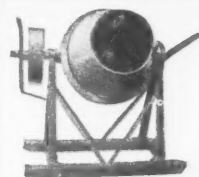
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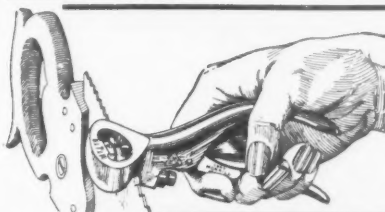
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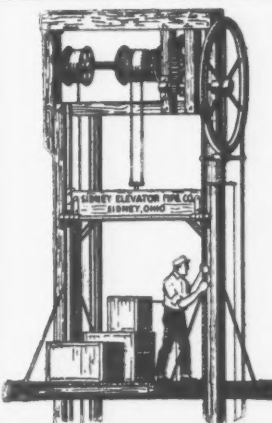
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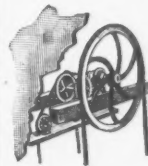
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